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# **Osprey Involvements**

**Historical Animal Geographies of Extinction and Return**

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**2016**





# Abstract

This thesis argues that humans and ospreys in Scotland are materially, bodily and ethically involved with one another. It follows that a separate human or osprey history of species conservation is inadequate. Focused primarily through the entwined experiences of birds and people on Speyside, I examine the unfolding of osprey-human relationships with particular attention to the agency and capacities of nonhuman animals *as animals*: with geographies and lives of their own. Drawing on the scholarship of Tim Ingold, Giles Deleuze and Donna Haraway, I consider the dwelling, the co-becoming, and the zones of attachment between human and osprey subjects. At the heart of this project has been an investigation of the relationship between the historical and geographical conditions within which osprey life has flourished on its return from extinction in Scotland, and the possibilities for osprey nature that emerge from such conditions. I offer a 'site ontology' of osprey involvements, each 'site' comprising a material, bodily and ethical event of agency, subjectivity and composition. Often running in parallel to each other, such sites emphasise differentiations of osprey life: their situation within the militarised biopolitics of bird protection and 'Operation Osprey'; negotiations of avian-human proximity and distances; their nesting geographies amidst the experimental attempts to restore a diminished community to its former range; and the nature of avian existence emerging in the wake of a return from extinction. Drawing on an array of archival material – occasionally supplemented with oral history, avian science and encounters in the field – the thesis proposes a lively historical geography of animal involvement.



## **Lay Summary**

This PhD thesis narrates and explores the ways in which humans and ospreys in Scotland are historically intertwined. The tale of the ospreys' demise – as a result of human persecution during the nineteenth century – is reasonably well known. Accounts of their return, after four decades of breeding extinction, can have it appear that such damage has been triumphantly reversed. In the thesis, I examine a range of moral concerns around osprey life in the mid-twentieth-century, documenting the ways in which birds and humans were the co-architects of this 'de-extinction'. Through five stories, chronicling the militarised nest-defense of 'Operation Osprey' at Loch Garten (begun in 1956), as well as later initiatives to manage the birds on Speyside, I explore complex ethical questions concerning the human-animal relations that arise amidst attempts to 'secure', know and foster a successful species re-colonisation. Across these stories, I draw on ideas from continental philosophy to question the boundaries between human and non-human worlds, and to challenge any notion of separable human and osprey histories. Different chapters explore the protection of the nest against human disturbance, the effects of pesticide use upon the breeding environment, the scientific observation of the birds, the construction of artificial osprey nests, and a discussion of why some sites remain empty even as the species today thrives in Scotland. The intention of this thesis is not just to show that osprey conservation is contradictory and multifaceted; it is also to reveal how our attempts to support the survival of wild animals and ecologies deepens our ethical involvement with them. Such involvement has, as I show in the case of the osprey, a lasting effect on how such beings come to exist in the environment. In concluding, I suggest that despite the promise of restorative or 're-wilding' interventions, some things lost in the environment remain so. It's a loss that matters.



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\* \* \* \* \*

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# Acknowledgements

There are a great many people to whom I owe a great deal of thanks for their support, wisdom and friendship.

Firstly, I want to thank my supervisors, Dr Fraser MacDonald and Dr Eric Laurier. Without Fraser's enthusiasm for the topic, neither would I have come to Edinburgh nor embarked upon this project. Eric has brought not only his unlimited positivity, but also a calm and steady influence to the thesis. In each, I have a friend, mentor and source of constant inspiration. I am also grateful to my advisor, Prof. Charlie Withers, for his sage advice, attention, and the offer of a chat whenever we pass on the stairs. Although not 'officially' linked to the project, others have helped shape it. Dr Dan Swanton has proven to be one of the most big-hearted people I have ever met, with an office door that seemingly never closes. Dr Franklin Ginn has always asked hard questions and eagerly recommended good sci-fi. Prof. Emily Brady has gifted both her birding counsel and coveted opportunities to communicate my research in the classroom.

Secondly, I am indebted to many in the birding world. At the SOC, Karen Bidgood, Iain Elfick and Wendy Hicks helped me navigate the extensive library at Waterston house. At the RSPB, Derek Niemann at Sandy gave me a foot in the door, whilst Keith Morton in Edinburgh offered me access to a treasure-trove of source material. Visits to the Lodge were all the brighter for the kindness and friendship shown by Elizabeth George, RSPB Sandy librarian. At Forest Lodge, Richard Thaxton offered both decades of osprey logs and his fresh insight. I am indebted to all of those past and present figures within both societies who saw fit to share their memories and stories, and who so often pointed me in a more interesting direction.

Thirdly, I have a brilliant collection of pals and colleagues that have helped me survive the PhD process. Duncan and Govan helped me escape the office and the thesis mentality, often buying a poor student that much-needed drink. The Cambridge class of 2007, along with Sam and Aveek, hosted and entertained me whenever I ventured 'down south'. In Ruari McKelvie-Sutherland and Phil Dodds I

have a pair of academic brothers. They are probably as relieved as I am to see this document submitted. In the past few years, I have been fortunate enough to share friendships with Lorna, Sarah M, Emily, Kate and George, often lifting me out of the pits I seemed to prone to falling into. One of the proudest achievements of my PhD has been co-founding the Drummond Bears Football Club. Any acknowledgements section would be remiss without mention of Ed Baynes – for his joint role in that endeavour – and the General – for his reliable deliveries to Row Z.

Fourthly, past and present Benbecula inmates have helped me work, learn and find enjoyment throughout my time at Edinburgh. Richard, Jake, Daniel, Anne, Bex, Cathy, Barbara and the occasional Sarah G are as fine a company with whom to share an office playlist as I have ever known. Colleagues in Barra, the Annexe and Lower Lewis have put up with my spontaneous appearances, the latter proving that friendships between human and physical geographers *are* possible. There are many too who have since left Edinburgh. Julian, Anna, Sophie, Brett, Steph, Pete and Ealasaid have all, in one way or another, helped me across the finish line. Gratitude also goes to Gary, Robbie, Jason, Howard and Mark, for their soundtrack. I am glad to have had Louise with me on the final straight, making everything easier to bear.

Finally, mention is due to my family. My parents, Rosy and Trevor, have (at times) had to put up with a morose, sullen git often anxiously wittering about everything from ospreys to French philosophy. They have never failed to support me. My brother, Tom, has made me a laugh when I've needed to, and stopped my head from ever getting too big. Ruth put me up during various research trips south, welcoming me back from the archive on a Friday night with a stiff drink and a grin. Wendy, Jan, Dave, and my grandmothers, Sylvia and Cynthia, have continuously offered kind words and encouragement over the past 4 years.

My grandfathers, Phil Wood and Julian Garlick, were sadly unable to see me finish this thesis. I dedicate it to them.

This research project was generously funded by the ESRC.

## **Author's Declaration**

I declare that this thesis has been composed by me, it is the result of my own work, and that it has not been submitted for any other degree at the University of Edinburgh or another institution.

A handwritten signature in black ink, appearing to read 'Benjamin W. Garlick', written in a cursive style.

**Benjamin W. Garlick**

*4<sup>th</sup> February 2017*





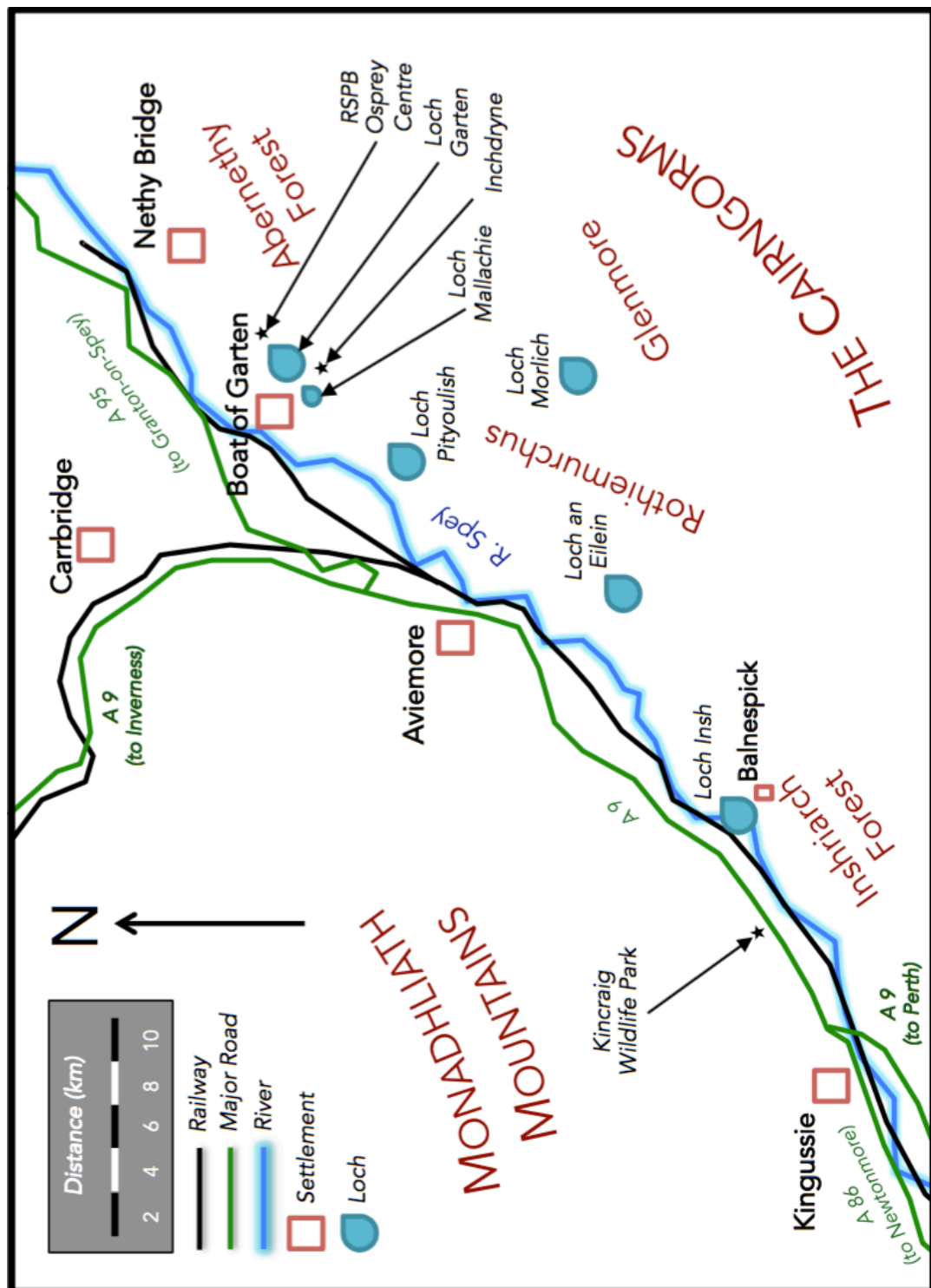


Figure 1: A sketch-map showing the Speyside area and important locations within the text. Adapted by the author from OS 1:200,000 Map.



## Involve

[verb]

- have or include (something) as a necessary or integral part or result: *my job involves a lot of travelling/ a bill proposing harsher penalties for crimes involving firearms and drugs.*
- cause to participate in an activity or situation: *an opportunity to involve as many people as possible in all aspects of music-making.*
- (be/get involved) be or become occupied or engrossed in something: *her husband had been very involved in his work.*
- (be involved) be engaged in an emotional or personal relationship: *Angela told me she was involved with someone else.*

ORIGIN late Middle English (in the sense 'enfold' and 'entangle'; formerly also as *envolve*): from Latin *involvere*, from *in-* 'into' + *volvere* 'to roll'.

## Involvement

[noun]

- [mass noun] the fact or condition of being involved with or participating in something: *US officials produced evidence of his involvement in drug trafficking.*
- emotional or personal association with someone: *she knew that involvement with Adam would only complicate her life.*

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## Involved

[adjective]

- **difficult to understand**; complicated: *a long, involved conversation.*

Figure 2: 'Involvement', definitions taken from Stevenson A (ed) (2010) Oxford Dictionary of English, Third Edition. Oxford University Press; Oxford & New York: 921.



# Chapter 1

## Introduction

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### 1. From Extinction to Survival

‘True, the birds made the first move, by actually coming back, but unless vigorous action had been taken by bird protectionists in each case they probably would never have established themselves.’<sup>1</sup>

Richard Fitter’s foreword to Philip Brown and George Waterston’s 1962 book *The Return of the Osprey* began with a statement that few could deny: ‘This book tells the story of achievement’. For Fitter, this was, primarily, a reference to the ‘handful of men’ from the Royal Society for the Protection of Birds (hereafter RSPB) that had worked long and hard to secure the re-establishment of a once-lost, spectacular raptor.<sup>2</sup> Yet that ‘achievement’ can be conceived of in different ways. It can equally refer to the activities of the osprey itself, a struggling yet tenacious avian presence that eventually became, despite the threats it faced, able to breed in Britain. Further still, the achievement might be thought of in terms of the relational work of humans and birds engaged together in conservation practice. In this sense, the return of the osprey is an achievement of collective human and nonhuman agency, a form of connection and experimentation to build something new.<sup>3</sup> Such an achievement is geographically locatable, historically contingent, and the result of careful attention to how humans and nonhumans came together in particular ways, places and times.<sup>4</sup> It is not, in other words, a foregone conclusion. I read the osprey’s return as a more precarious achievement; one ‘whose durability and reach is spun between the potencies and frailties of more than human kinds.’<sup>5</sup>

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<sup>1</sup> Fitter R (1962) ‘Foreword’ in Brown P and Waterston G (eds) *The Return of the Osprey* (Collins: London): 9.

<sup>2</sup> Fitter R (1962) *ibid*

<sup>3</sup> Stengers I (2010) ‘Including Nonhumans in Political Theory: Opening Pandora’s Box?’ in Braun B and Whatmore S (eds) *Political Matter: Technoscience, Democracy, and Public Life* (University of Minnesota Press: Minneapolis & London): 11-12.

<sup>4</sup> Hustak C and Myers N (2012) ‘Involutionary Momentum: Affective Ecologies and the Sciences of Plant/Insect Encounters’ *differences: A Journal of Feminist Cultural Studies* 25(3): 83.

<sup>5</sup> Whatmore S (2002) *Hybrid Geographies: natures, cultures, spaces*: 161.

This thesis is about the return of the osprey (*Pandion haliaetus*) to the pine forests and waterways of Scotland. Since the mid-1950s, a re-colonised community of these birds has become a celebrated success-story, touting the merits of both organised species protection and controlled public access to endangered wildlife. It is a history of active human participation in the geographies of a species: both in causing a national osprey breeding extinction in 1916 and through an intimate managing of the birds' return. It is a story about human-avian *involvement* that, as Fitter notes, cannot be told without recourse to the 'vigorous action' occurring in the zones of contact between species. That is why I foreground an attention to world-building and its geographies throughout this thesis wherein the real 'achievements' of osprey conservation are the character of osprey life itself, the historical conditions of its re-emergent formation, and its intertwining with humans.

'Operation Osprey' was the name given by the RSPB's Scottish Representative, George Waterston, to the militarised assemblage of bird protection organised around the nesting sites of ospreys at Loch Garten on Speyside from the late 1950s onwards (see Figure 1). Operation Osprey is a story of constant and contingent involvement in numerous aspects of bird life, including breeding, nesting and the incubation of eggs. Whilst the effects of this involvement are asymmetrically felt by the birds, and largely propagated by humans, *all* beings (human, bird or otherwise) appear as relational and processual in their formation. It is therefore also a story where more-than-human subjects routinely encounter, respond to and act upon each other, comprising meetings that always contain the potential for new forms to emerge.<sup>6</sup>

Operation Osprey began with the fleeting and partial sighting of a rare bird in the woods. It developed, like so many post-war species-protection initiatives, out of the simple desire to protect against extinction, and to repurpose the training, equipment and resolve of wartime towards more life-preserving ends.<sup>7</sup> A militarised nature, and the re-production of a military subjectivity amongst wardens, was reworked with the need to manage an animal that could be affected by proximate human presence, and whose charisma beguiled the tourist imagination to visit and support

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<sup>6</sup> Haraway D (2008) *When species meet*.

<sup>7</sup> See Adams B (2004) *Against Extinction: The Story of Conservation*.

the project of organised bird conservation. This site, and others, had to be closely managed. As a result, in the historical narratives and raptor biopolitics that emerged, some ospreys became more visible than others. Such visibility enabled both an RSPB-mediated public encounter with wild birds, and the extrapolation of scientific facts that later informed interpretations of osprey existence. All of this raises questions about how humans might involve themselves in ever more experimental, practical and future-oriented programmes of conservation. The promises of an abundant osprey future in Britain today prompt reflection about the character of osprey life 'after extinction', and what remains lost despite the birds' return.

To the extent that there are 'threats' to the successes of the osprey's return then they are specific to the to historical and spatial context of the particular story being told. The shadowy enemies of bird protectionism take on the form of egg collectors, ignorant or curious members of the public, and barely-tangible chemical residues. The birds to be protected are not fixed but highly mobile in their movements and relations. They appear skittish, fragile, fickle; but also: stable, tolerant, indifferent to human involvement and geographical attachment. Ospreys express a profound and intergenerational relationship with place that exceeds a genetic (and generalised) understanding of their species-being. Paradoxically, on-going observations of certain individuals form the basis for a standardised account of species population ecology. The enthusiastic humans working towards their protection are similarly unfixed. Different bodies, senses and capacities are enacted in versions that include the militarised nest-guard, the objective scientist, and the proactive nest-builder.

This thesis attempts to navigate these shifting subjects and relations that together comprise the historical geographies of human-osprey involvement. I explore how a community of ospreys has been made anew through involvements across material, bodily and ethical sites of attachment that conjugate humans, birds, technologies and environments – complex assemblages generative of the conditions for avian life to emerge and flourish. The thesis looks to narrate the more 'beastly places' that can be readily found amidst this well-known conservation project, yet have escaped conceptually-driven scholarly engagement. The accounts offered cut across each other in order to hold in tension the multiple 'becomings' of bird, human and other



forms of agency. The word becoming situates my version of the osprey's historical geography within a particular theoretical milieu: one that takes an interest (in geographical work at least) in the processes of (spatial) *formation* rather than a description of static states or end points.<sup>8</sup>

## 2. Re-finding the osprey

There have been several historical treatments of Operation Osprey, predominantly either written by those involved in the project (including Waterston, former RSPB-secretary Philip Brown, and osprey conservationist Roy Dennis); or by environmental historians like Rob Lambert and, to a lesser extent, Chris Smout.<sup>9</sup> Both provide comparably historical overviews of the project, describing the actions of pioneering bird protectionists seeking to secure an emerging osprey population against a variety of human threats. They include discussion of the nineteenth century decline; early attempts to secure a return; public outcry following a nest robbery in 1958; the successful season of 1959; the enrolling of individuals and resources from a variety of military and conservation arenas; and the subsequent success of the Operation (barring a few 'incidents'). Such work provides a valuable and extensive body of reference, to which I am indebted. It also testifies to the existence of both a wealth of archival material and an active folk-memory concerning the history of ospreys in Scotland, and the project at Loch Garten in particular.

This thesis builds on and converses with these histories, yet it tells a quite different set of stories about Operation Osprey. In what follows I figure the return of the Loch Garten osprey in terms of its historical animal geographies: the places and spatial expressions of avian life, its meetings with humans, and the conditions for

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<sup>8</sup> Anderson B and Macfarlane C (2011) 'Assemblage and geography' *Area* **43**(2): 124-127.

<sup>9</sup> In particular see the work of Brown P and Waterston G (1962) *The Return of the Osprey*; Waterston G (1966) *Ospreys in Speyside*; Brown P (1979) *The Scottish Ospreys: From Extinction to Survival*; Dennis R (2008) *A Life of Ospreys*; Lambert R (1999) 'In Search of Wilderness, Nature and Sport: The Visitor to Rothiemurchus, 1780-2000' in Smout C and Lambert R (eds) *Rothiemurchus: Nature and People on a Highland Estate, 1500-2000* (Scottish Cultural Press; Edinburgh): 32-59; (2001) *Contested Mountains: Nature, Development and Environment in the Cairngorms Region of Scotland, 1880-1980*; (2011) 'Strangers in a Familiar Land: The Return of the Native 'Aliens' and the Re-Wilding of Britain's Skies, 1850-2010' in Rotherham D and Lambert R (eds) *Invasive and Introduced Plants and Animals: Human Perceptions, Attitudes and Approaches to Management* (Earthscan; London & Washington DC): 169-184; Smout C (2000) *Nature Contested: Environmental History in Scotland and Northern England Since 1600*.

flourishing that contingently emerge through the play of events, times and practices. The Scottish osprey reveals itself as both a charismatic form of life, affective of ethical and curious attention, and one that proves available for experimental forms of co-existence and world-building. It is a bird that attracts interest and an *interesting* bird. Part of the purpose of this thesis is to explore the conditions that make these ospreys more or less interesting, articulate, or capable of agency.<sup>10</sup>

There is now much scholarly interest in the subject of extinction, the geographies of the more-than-human, and a Deleuzian-inflected concern with the immanent potential of 'wild life' in a world increasingly marked and shaped by/through human activity.<sup>11</sup> In this context, the osprey story on Speyside offers a compelling case study of the ways in which the character of animal lives cannot be considered apart from their involvement with humans and other entities. It is also the history of a return from extinction that offers the chance to trace, if partially, the conditions and processes by which a community of birds comes to be constituted. These and the other stories of ospreys explored within this thesis disrupt singular, static or monolithic conceptions of osprey 'Nature'. Instead, I look to make room for more tangled and rhizomatic human-animal involvements constituting osprey 'natures', plural.<sup>12</sup>

The central aim of this thesis is to re-discover ospreys *as ospreys* amidst the history and geography of their re-colonisation. This is to follow recent calls for more attention in scholarship to 'animals' geographies', and to argue that doing so provides hitherto under-acknowledged insights into the nature of the material, bodily and ethical involvements that affect human and nonhuman subjects.<sup>13</sup> Such

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<sup>10</sup> Despret V (2005) 'Sheep Do Have Opinions' in Latour B and Weibel P (eds) *Making Things Public: Atmospheres of Democracy* (MIT Press; Cambridge MA & London): 360-369.

<sup>11</sup> Whatmore S (2002) op cit.; Lulka D (2004) 'Stabilizing the herd: fixing the identity of nonhumans' *Environment and Planning D: Society & Space* **22**(3): 439-463; Lorimer J (2015) *Wildlife in the Anthropocene: Conservation after nature*; Ginn F (2016) *The Domestic Wild: Memory, Nature and Gardening in Suburbia*.

<sup>12</sup> Deleuze G and Guattari F (2013) *A Thousand Plateaus: Capitalism and Schizophrenia Vol. 2*: 10-11.

<sup>13</sup> Buller H (2014) 'Animal geographies I' *Progress in Human Geography* **38**(2): 308-318; Hodgetts T and Lorimer J (2014) 'Methodologies for animals' geographies: cultures, communication and genomics' *Cultural Geographies* **22**(2): 285-295; Lorimer J (2015) op cit.

a project begins by posing two interlinked questions. Firstly, *what co-constitutive, more-than-human relations form the historical conditions within which ospreys have dwelt?* Secondly, *how do the on-going involvements between ospreys, humans and other beings continue to shape the form of that dwelling and the trajectories of becoming for osprey life?*

To begin to answer these questions I draw upon the work of historians, geographers, philosophers and other humanities scholars theorising and encountering lived, more-than-human pasts in their own research. Such work draws from a rich and diverse archive, feeling out the traces left by more beastly forms of agency amidst the bumpy fabric of traditional documentary sources.<sup>14</sup> I have also sought to develop – following burgeoning literature that both theorises and enacts human nature as ‘an interspecies relationship’ – a conceptual framework of life through the term *involvement* (Figure 2).<sup>15</sup> This is to recognise that lively beings emerge and act as they are mixed, enmeshed, relationally co-constituted and invested in each other. Such a conception also recognises that life often exceeds linear explanations or narratives. In taking such a conceptual approach to historical geography, I reject any notion of an a priori distinction between human or nonhuman history. Rather, as Tim Ingold proposes, I take the imbrication of beings in the becoming of sites, modes of existence and forms of life as the starting point for historical and geographical analysis.<sup>16</sup> It is a project that holds in tension the different pathways along which human and osprey subjects become something else, something new. To the extent that I speculate on the nature of nonhuman life, I do so with close reference to three strands of enquiry: contemporary scientific understandings of osprey behaviour; the recovery of remembered and recorded experiences of living with ospreys; and an attention to how the material conditions in which life takes place matter for subject’s bodily and discursive practices.

An investigation of the historical involvements of humans and nonhumans could settle on any number of case studies, so I offer justifications for my choice of the

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<sup>14</sup> Benson E (2011a) ‘Animal Writes: Historiography, Disciplinarity, and the Animal Trace’ in Kalof L and Montgomery G (eds) *Making Animal Meaning* (Michigan State University Press; East Lansing MI): 3-16.

<sup>15</sup> Tsing A (2012) ‘Unruly Edges: Mushrooms as Companion Species’ *Environmental Humanities* 1: 141-154.

<sup>16</sup> Ingold T (2000) *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*: 61.

Speyside osprey. Firstly, in empirical terms, the Loch Garten osprey comprises one of the most consistently surveyed, documented and monitored forms of animal existence in British (if not world) history, having been subject to a round the clock warden presence since 1957. Given the nature of the Loch Garten project, its success and its well-documented history, this story offers a rich example in which to foreground the animal as an historical presence. The osprey is never merely something acted upon, but acted *with* as it lives, dwells and changes with the passage of time. The archival records comprise a substantial body of material that reveals much about the character of mid-twentieth century ornithology, as well as the development of a burgeoning ecological science. The study of the osprey at Loch Garten has also produced data from which more general conclusions about the nature and breeding behaviour of *Pandion haliaetus* in the Palearctic have been drawn.<sup>17</sup> The scientific characterisation of the Eurasian osprey is, in other words, significantly constituted by the material expression of osprey life at Loch Garten.

Secondly, the story of Operation Osprey enacts the osprey in multiple (and, at times, contradictory) ways: a threatened species to be protected; a malleable affective subject to be disciplined; an object for scientific study and description; and a partner in the uncertain and unfolding project of world-building, to offer a few such characterisations. The osprey story allows me to explore a variety of arguments in and around conservation practice – including the character of species protection biopolitics, the ethics of future-oriented restoration projects, and the significance of animal ‘cultures’ amongst others – through specific attention to the osprey as an active participant in an involved, more-than-human history.

Finally, the osprey story is a ‘de-extinction’ that has taken place (and continues to unfold) within lived memory. Although one can debate whether or not the species

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<sup>17</sup> See Cramp S, Simmons K, Gillmor R, Hollom P, Hudson R, Nicholson E, Ogilvie M, Olney P, Roselaar C, Voous K, Wallace D and Wattel J (1980) *Handbook of the Birds of Europe, the Middle East and North Africa: The Birds of the Western Palearctic (Volume II: Hawks to Bustards)*; Green R (1976) ‘Breeding Behaviour of Ospreys *Pandion haliaetus* in Scotland’ *The Ibis* **118**(4): 475-490; Newton I (1979) *Population Ecology of Raptors*; Waterston G (1962) ‘The Natural History of the Osprey’ in Brown P and Waterston G (eds) *The Return of the Osprey* (Collins; London): 65-160, and the deployment of these key references in subsequent works such as Hardey J, Crick H, Wernham C, Riley H, Etheridge B and Thompson D (2009) *Raptors: A Field Guide for Surveys and Monitoring*.

was wholly absent from Scotland between 1916 and 1954, the species has been considered extinct within ornithological literature (raising interesting questions about the visibility or ‘likely presence’ of breeding birds).<sup>18</sup> Moreover, the character of the osprey population that was eradicated during the nineteenth century is comparatively well documented and displays certain ‘cultural’ differences to that which exists today. In seeking to recover lost osprey geographies from the archival traces of their occupation on Speyside, I argue that we can both learn more about the more-than-human practices of conservation in the twentieth century, and yet also consider which aspects of species existence *remain* lost despite their ‘return’ from extinction.

### **3. Sites of Involvement**

This thesis develops five ‘involvements’ that have produced different articulations and geographies of osprey life on Speyside. Each corresponds with a different empirical chapter and is explored through a different site of relations. These are not sites in the sense of a geographical location – although the enduring reference point for many of these involvements is the nests of ospreys found either at Loch Garten or on wider Speyside. Rather, site refers to a contingent field of relations: an ‘organising event space’ that is productive of both new formations and agencies as an assembled contingency of ‘immanent, material connection between bodies and unfolding situated practices.’<sup>19</sup> These sites are specific assemblages of osprey, human and other agencies. They are historically emergent in character and co-constitutive of their subjects, whose forms are always in the process of being re-made through their relationships with others. They are ‘small stories’ of human-osprey involvement that speak back to the broader concerns of historical, cultural and animal geographies.<sup>20</sup> Some of these ‘site-d’ involvements are traced over a period of a few years whilst others are traced over decades or centuries. They have threads trailing further into the past, strands that can be followed into the present, and loose ends that lead to possible futures. Some of these futures are gestured towards over the course of the thesis and in its conclusions.

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<sup>18</sup> See the discussion in Dennis R (2008) op cit.: 55-59; the notion of ‘likely presence’ taken from Hinchliffe S (2007) *Geographies of Nature: societies, environments and ecology*.

<sup>19</sup> Woodward K, Jones J and Marston S (2010) ‘Of eagles and flies: orientations toward the site’ *Area* **42**(3): 272-273.

<sup>20</sup> Lorimer H (2003) ‘Telling small stories: spaces of knowledge and the practice of geography’ *Transactions of the Institute of British Geographers* **28**(2): 197-217.

In the chapter that immediately follows this introduction, entitled **Conceptualising Osprey Involvements: Ontology and epistemology for historical animal geographies**, I situate the contributions of this thesis within the broader field of animal geographies and the work of social and humanities scholars engaging with avian life. I develop my framework of 'involvement', teasing out strands from the writings of Tim Ingold, Giles Deleuze (often with Felix Guattari) and Donna Haraway. I explore how life, as a dwelt process of on-going formation, is constituted through historically negotiated alliances – 'blocks of becoming' in Deleuze's parlance – between heterogeneous entities. I attend to the ways that beings meet, and the response and regard of different species and communities to one another as they conjoin in the making and practice of attachments across a variety of sites. I operationalise this framework for the empirical chapters that follow, directing attention towards sites of involvement in three registers: material conditions and agency; the capacities of bodies to 'be affected'; and the ethics of involvement in the lives of others. The chapter also develops debates in contemporary historical and geographical scholarship concerning epistemological engagement with the animal in history, expanding a methodological discussion of Etienne Benson's concept of the 'animal archive'.<sup>21</sup>

The first empirical chapter, **'Operation Osprey': from ends to means in avian biosecurity**, concerns the work of 'biosecuring' osprey life at Loch Garten, primarily between 1955 and 1975. It traces the means by which George Waterston and the RSPB involved themselves in the ospreys' environment to secure certain conditions under which the birds could re-colonise and breed. I explore several modes by which osprey life was defended and managed, tracing the developments from protecting the birds via a guarded secrecy, through a militarising of their nest and environment, towards the eventual decision to make the ospreys accessible to a viewing public. This shift in osprey biosecurity practice, I argue, reflects the object of an emerging 'osprey biopolitics'. The survival of birds at Loch Garten shifted from being the primary ends of protection efforts. Instead, their public display became a means by which a disparate and returning 'population' of ospreys could

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<sup>21</sup> Benson E (2011a) op cit.

be effectively promoted and conserved.<sup>22</sup> Thus, the material conditions for osprey life at the site also underwent a transformation as the birds and their surroundings came to be managed to ensure their protection and display.

The discussion of osprey biopolitics is continued in the second chapter, **Chemical Concerns: Pesticides, ospreys and awkward biopolitics on Speyside**. Here, I examine the entanglements of a lesser-known 'second pair' of ospreys that unsuccessfully attempted to breed on Speyside at several locations between 1963 and 1968. I examine the conditions for these ospreys' lives as they were affected in relation to the lively agency of vital, toxic compounds. This chapter explores how the apparatus of biosecurity that had developed through Operation Osprey could not protect the birds, as vulnerable and immersed biological bodies, against the threat of pesticide contamination. The result of the ospreys' environment being caught within an overlapping military-industrial project of post-war food security, organochlorine pesticide residues proved difficult to sense or determine in their material affects. The meeting of birds' bodies, lethal materials and bird protectionists resulted in ever more intimate human involvements in the biology of ospreys, revealing the limits of biosecurity projects seeking to act upon vulnerable populations.

The third empirical chapter, **Hidden Involvements: Five expressions of human-osprey proximity**, explores the manner by which osprey life was surveyed and monitored at Loch Garten as part of efforts to both protect and understand it. In particular, the chapter focuses on the material assemblage of the osprey hide: a structure enacting multiple, overlapping relationships of human-osprey proximity. The chapter thus explores the practices by which humans have sought to get close to ospreys in different ways, and to different ends. Whilst one might conceive of hide work as a means of achieving proximity *without* becoming involved in bird life, I argue that the recorded logs of osprey behaviour reveal alternative versions of subjectivity and presence. The chapter explores the practices by which humans make ospreys more articulate. Hide work at Loch Garten emerges as a negotiated and involved relationship of closeness, reconstituting both human and osprey

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<sup>22</sup> Foucault M (2004) *The Birth of Biopolitics: Lectures at the Collège de France, 1978–1979*

subjects through the processes by which each 'learns to be affected' by the other. Thus, the 'indifference' of ospreys at Loch Garten is as much a part of producing scientific understanding of *Pandion haliaetus* as the knowledge-making involvements of humans themselves.

In the fourth chapter, **Nesting Geographies: (Re)composing osprey geographies in/beyond the twentieth century**, I encounter an historical and present day human involvement in osprey life: nest building. To characterise this practice I conceptualise nesting as the situated geographical involvement between bird and place, putting literature concerning nesting biology into conversation with Gaston Bachelard's phenomenological notion of 'confidence.'<sup>23</sup> I frame nesting as the inter- and intra-generational forging of a connection between ospreys and nest sites. Longer histories of construction, maintenance and inheritance are diffracted by instances of disturbance, trauma and failure that might jeopardise or augment that connection. I then proceed to account for how humans have sought to involve themselves in the composition of new nesting geographies, supporting the osprey re-colonisation by constructing nests for the birds to use. I characterise this practice as an experimental 'becoming-animal' that relies upon taking the osprey, its geographical preferences, and its agency seriously. The chapter seeks to anticipate the possible ethical entanglements and involvements that such a project might entail in the future.

The final empirical chapter takes this theorisation of nesting far back into the nineteenth century to explore the extinction of the original Scottish osprey community and its haunting of the contemporary landscape. **The Empty Castle: Extinction, ospreys and geography at Loch an Eilein**, draws from historical, 'non-innocent' accounts of osprey life in the nineteenth century – focussing in particular upon the site tenancy of birds to the ruins found within the titular loch in the Rothiemurchus forest. In doing so, I sketch an account of a former osprey community that I argue displayed a distinctive nesting 'culture'. I map the geography of this community's extinction. In closing, I argue that this former avian lifeworld both haunts and makes claims upon the ethical dimensions of more recent

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<sup>23</sup> Bachelard G (1993) *The Poetics of Space*.



human involvements in osprey geographies. I close with a series of knotty questions about how best to ‘stay with the trouble’ of species loss in the wake of de-extinction.<sup>24</sup>

In concluding the thesis I make some conceptual reflections on ‘involvements’, and the contributions that this onto-epistemic framework might make to both historical and contemporary-focused studies of animals’ geographies. I also offer three areas for further research, teasing out underlying currents through the thesis that would benefit from further scholarly attention.

#### **4. Introducing *Pandion haliaetus***

Before proceeding with my conceptual framing, I must first provide a fuller introduction to the biological species taxa *Pandion haliaetus*: the osprey. My aim here is not to provide an exhaustive review of osprey biology. I simply give brief, necessary context as to its evolutionary history, global and national distribution, and field characteristics as understood within (and as the result of) conservation science and management. Further aspects of its biology and ecology – its breeding and nesting behaviour in particular – are given a more fulsome treatment in the course of later empirical chapters. Moreover, in the spirit of a Deleuzian and affective ecology, I do not wish to over-prescribe the capacities of these birds at the outset. I prefer, following the lead of ethologist Dominique Lestel, to pay attention to what ospreys reveal about themselves and their capacities through their presence in the archive, rather than to rigidly circumscribe their behavioural and agential expressivity through rigid adherence to a strict scientific narrative or model.<sup>25</sup> To follow Steve Hinchliffe, I want to cultivate a ‘careful’ approach to osprey ecology. I appreciate what is ‘known’ about osprey behaviour, biology and capacities whilst maintaining an attention to the possibility for new forms of bird life to emerge, surprise, and act in unpredictable ways as a result of their flourishing within different relational contexts.<sup>26</sup>

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<sup>24</sup> Haraway D (2010) Haraway D (2010) ‘When Species Meet: Staying with the Trouble’ *Environment and Planning D: Society & Space* **28**(1): 53.

<sup>25</sup> Lestel D, Bussolini J and Chrulaw M (2014) ‘The Phenomenology of Animal Life’ *Environmental Humanities* **5**: 125-148.

<sup>26</sup> Hinchliffe S (2008) ‘Reconstituting nature conservation: Towards a careful political ecology’ *Geoforum* **39**(1): 88-97.

Ospreys have a certain immediate charisma that differentiates them from other birds of prey.<sup>27</sup> They are recognisably distinct, both in their ways of dwelling within the world and their corporeality, from the other raptors designated within the order of *Accipitriformes* (the eagles, hawks, and ‘old world’ vultures) by taxonomists. They are large birds at up to six foot across (following raptor dimorphism, females are bigger than males). Their plumage is dark-chocolate brown on the body, white on the breast and head, and they sport an iconic bandit stripe across the eyes (Figure 3). Ospreys hunt along lakes, coasts and rivers with specially adapted claws, adhesive scales on their feet, and narrow wings for flying over water together embodying a longer history of involvement with an exclusively Piscean prey. All these unique characteristics, and their unique ways being in the environment, have warranted their own family – *Pandionae* – for this ‘most specialised of all raptors’.<sup>28</sup> It’s solitary genus, *Pandion*, in turn hosts a single species, *haliaetus*. First named by Carl Linnaeus within his *Systema Natura*, this eighteenth-century naturalist’s decision to awkwardly bundle the osprey within the *Falco* genus has since been overturned.<sup>29</sup>

Even working with a fossil record that remains partial and ambiguous, it is still reasonable to assert that ospreys have been widely distributed across the northern hemisphere for at least 10 million years. Their historical and cultural geographies have accompanied the emergence of our own and they appear to have inhabited a similar range ever since ‘our earliest ape-like ancestors left forests and began to walk upright.’<sup>30</sup> Their involvements with humans span the whole of our history; our involvements with ospreys are a relatively recent phenomenon in the temporality of their existence.

Ospreys are adaptable birds – some might say ‘lazy’ and opportunistic; different ecological assemblages have brought forth new capacities in their physiology and behaviour.<sup>31</sup> Indeed, the osprey is a ‘world citizen’ found around the globe.<sup>32</sup> In

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<sup>27</sup> Lorimer J (2007) ‘Nonhuman Charisma’ *Environment and Planning D: Society & Space* **25**(5): 911-932.

<sup>28</sup> Cramp S et al (1980) op cit.: 265-266.

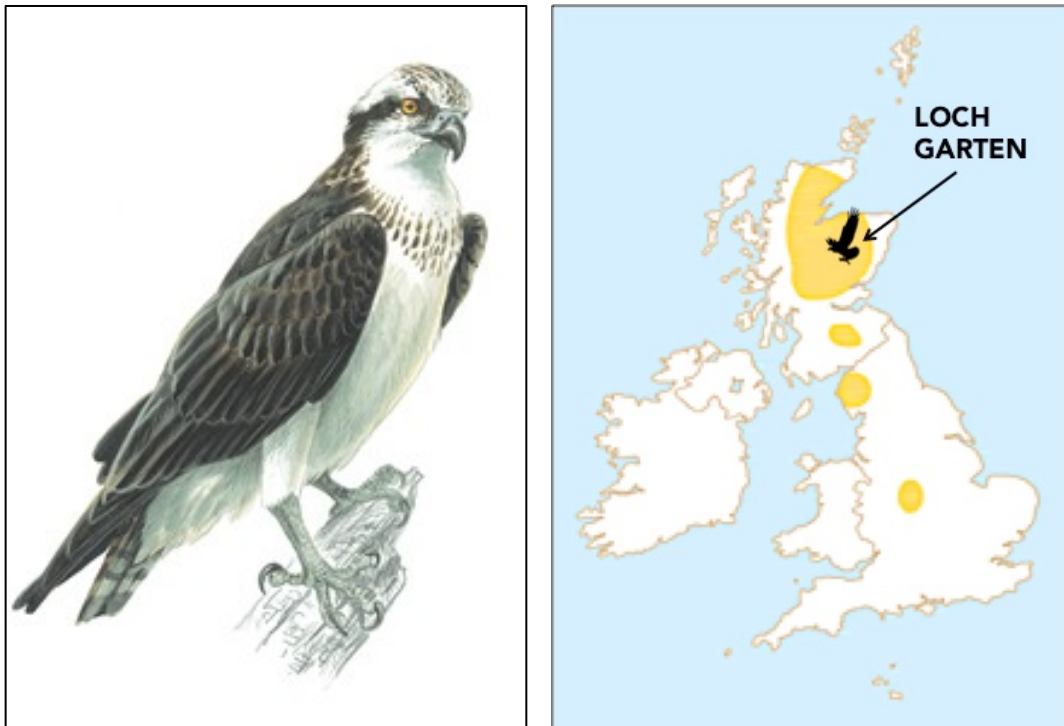
<sup>29</sup> A combination of the ancient Greek words for ‘sea-’ (*hali*) and ‘eagle’ (*aetos*).

<sup>30</sup> Poole A (1989) *Ospreys: A Natural and Unnatural History*: 13.

<sup>31</sup> Pullar P (2001) *Dancing with ospreys (Illustrated by Keith Brockie)*: 28.

<sup>32</sup> Peterson R (1969) ‘The Osprey: Endangered World Citizen’ *National Geographic* (July 1969): 53-66.

turn, taxonomists have divined enough evidence as to delineate a suite of subspecies breeding across Europe (*P.h. haliaetus*), North America (*P.h. carolinensis*), Australasia (*P.h. cristatus*) and the Caribbean (*P. h. ridgwayi*). For clarity, this thesis concerns the Eurasian subspecies, *Pandion haliaetus haliaetus*. Yet, these differentiated expressions of osprey life can seem separated by almost ‘arbitrary’ measurements or differences in plumage agreed as recently as the 1920s.<sup>33</sup> Genetic science has proven little help, despite being increasingly accepted as a more definitive basis for classification within taxonomic science.<sup>34</sup> Ospreys show little genetic speciation, perhaps a reflection of cosmopolitan and migratory lives that ensure the possibility of intra-species involvements transcending both demarcated geographies and taxonomic lines.<sup>35</sup>



**Figure 3: *Pandion haliaetus*, the osprey, and its breeding range in Britain. Reproduced from the RSPB website [Accessed on 25 April 2016 at: <https://www.rspb.org.uk/discoverandenjoynature/discoverandlearn/birdguide/name/o/osprey/>]**

<sup>33</sup> Poole A (1989) op cit.: 13-18.

<sup>34</sup> I am paraphrasing from the far more in-depth discussions of genetic taxonomy found in Waterton C, Ellis R and Wynne B (2013) *Barcoding Nature: Shifting Cultures of Taxonomy in an Age of Biodiversity Loss*.

<sup>35</sup> Poole A (1989) op cit.

By contrast, this thesis begins by encountering such distinctions through the ethologically inflected sentiments of Giles Deleuze and Felix Guattari. Shunning the definition of an organism by either species or genus, they encourage one to, instead, 'count its affects'.<sup>36</sup> Indeed, it is in comparisons of these subspecies' modes of dwelling that one finds the most reason to differentiate them. Different communities demonstrate different tolerances for human disturbance, choices of nest site, and a desire to dwell in proximity to conspecifics that are well described across much of the scientific work cited throughout this thesis. In the fact of its sub-speciation, then, there is arguably already an appreciation within such scientific ornithology for osprey life as something that contingently emerges across its myriad involvements with other beings and environments. It is also the case that not all sub-species migrate. Those found in Britain do, and their lives exhibit a temporal refrain of movement synchronised with the climatic responses of fish to the waxing and waning of ice cover.<sup>37</sup> A circulating avian existence, comprised of adults, juveniles and partners with whom genetic material can be shared, extends between Britain and West Africa, where the mature birds winter and the immature stay to develop. In the UK, the osprey is present between late-March and early-September in numbers that today hover around 300 breeding pairs.<sup>38</sup> The majority of these still cling to the pinewoods, loch sides and river courses of Scotland, where both the decisive geographies of the past community's extinction and the present community's re-composition can be located.

This thesis begins its discussion of osprey geographies and their twentieth century involvements with the first pair to begin the species' re-colonizing Britain. I then embark upon tracing of the osprey's return, exploring how the birds have come to exist in the manner that they have; and how their agency has expressed itself amidst knots of human-avian relations that continue to shape their presence.

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<sup>36</sup> Deleuze G and Guattari F (2013) op cit.: 299.

<sup>37</sup> Poole A (1989) op cit.: 65-66.

<sup>38</sup> R. Dennis – personal communication, May 2016.



# Chapter 2

## Conceptualising Osprey Involvements

*Ontology and epistemology for historical animal geographies*

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### 1. Introduction

Any history of Operation Osprey – or indeed any conservation project – is insufficient if nonhuman life and its geographies are not taken seriously. This thesis aims to write a historical geography of osprey-human relations in which the osprey appears as a lively presence within those geographies. It seeks to render the osprey as a multidimensional, historically contingent agent through attention to particular sites of involvement between beings. Though historical geographers have grappled with ‘the animal’ before, these beastly presences are often shadowy figures; discursive foils for a humanist philosophy, passive screens upon which meanings are socially projected, or networked nodes that lack a creaturely heft.<sup>39</sup> Instead, this thesis explores the possibility of writing a more genuinely ‘animal history’. Advocating a conceptual framework of ‘involvement’, I engage the ontological and epistemological challenges such a project raises.<sup>40</sup> Across this chapter I look to explore two interwoven strands of animal history criticism. Firstly, figuring an ontology of animal life in historical and animal geography scholarship and research, with recourse to vitalist philosophy, contemporary debates and recent scholarship, I explore how we might craft an attention to *animals’ geographies*.<sup>41</sup> Secondly, the challenges that a focus on animal life presents the historical scholar in terms of what

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<sup>39</sup> See the criticisms of Sarah Whatmore’s *Hybrid Geographies* by Philo C (2005) ‘Spacing Lives and Lively Spaces: Partial Remarks on Sarah Whatmore’s *Hybrid Geographies*’ *Antipode* 37(4): 824-833.

<sup>40</sup> In particular I draw from the discussions of Benson E (2011a) op cit.; Brantz D (ed) (2010) *Beastly Natures: Animals, Humans and the Study of History*; Fudge E (2002a) ‘A Left-Handed Blow: Writing the History of Animals’ in Rothfels N (ed) *Representing Animals* (Indiana University Press; Bloomington IN and Indianapolis): 3-18; Fudge E (2013) ‘Milking Other Men’s Beasts’ *History and Theory* 52(4): 13-28; Kean H (2012) ‘Challenges for Historians Writing Animal-Human History: What Is Really Enough?’ *Anthrozoös* 25(supplement): 57-72; Lorimer J and Whatmore S (2009) ‘After the ‘king of beasts’: Samuel Baker and the embodied historical geographies of elephant hunting in mid-nineteenth-century Ceylon’ *Journal of Historical Geography* 35: 668-689; Philo C (1995) ‘Animals, Geography and the City: Notes on Inclusions and Exclusions’ *Environment and Planning D: Society & Space* 13(6): 655-681.

<sup>41</sup> Hodgetts T and Lorimer J (2013) op cit.

might be 'known' and how animal presences can be conjured forth within archival sources.

Conceptually, this thesis brings a Deleuzian-inspired approach to wildlife (as developed and applied within geography) to bear on the historical encounters between humans and ospreys.<sup>42</sup> In drawing too upon the work of Tim Ingold and Donna Haraway, it takes human-animal involvement as the starting point for multi-species inquiry.<sup>43</sup> It wields a variety of historical sources to diagnose the past conditions for osprey life, proposing informed speculations as to the nature and affects of that life in place. This approach conceives of both animal and human being as relational in constitution; as immersed and affected by a vibrant surrounding environment; and as transformed through the moments and spaces where bodies, species and communities meet. The aim is to foreground involvement in exploring particular 'attachment sites' between humans and ospreys on Speyside (and elsewhere) that overlap, trailing both backwards and forwards in time.<sup>44</sup> This thesis is a 'site ontology' of human-animal life that pays heed to: the materiality of involved encounters; subject-emergence; the capacities of involved bodies for agency in differently expressed forms; and the ethical work of, and questions raised by, certain involvements and their geographies.<sup>45</sup>

Throughout the thesis I advance a conception of animal life as taking place through involvements whereby lives, organisms and agencies are bound together in a shared trajectory of 'becoming'. This term, drawn primarily from the writings of Deleuze and Guattari on 'becoming animal', and the materially performative metaphysics of Karen Barad, captures the on-going, unfinished and relational constitution of both form and agential capacities (what entities are capable of *doing*).<sup>46</sup> Actors are always

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<sup>42</sup> See in particular Hinchliffe S (2007) op cit.; Lorimer J (2015) op cit.; Lulka D (2004) op cit.

<sup>43</sup> Tsing A (2012) op cit.

<sup>44</sup> Haraway D (2008) op cit.

<sup>45</sup> I use the term 'site ontology', discussed further below, as proposed by Schatzki T (2002) *The site of the social: a philosophical account of the constitution of social life and change*, and subsequently developed in geography via the work of Marston S, Jones J and Woodward K (2005) 'Human geography without scale' *Transactions of the Institute of British Geographers* 30(4): 416-432.

<sup>46</sup> See Deleuze G and Guattari F (2013) op cit.: 271-360; and also Barad K (2003) 'Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter'

in the act of formation. They do not exist as pre-given, static or fixed entities abiding on the world's surface but extend and find definition for themselves (and others) as they move through and in their surroundings.<sup>47</sup> This is the fundamental premise upon which I base my inquiry into osprey life as a cultural and historical geographer.

The first section of this chapter reviews the sub-field of 'animal geographies', drawing on social and humanities scholars' considerations of avian life. I find resonance in the osprey's story with three key areas: the production of knowledge about birds; birds as subjects of conservation or security biopolitics; and birds as lively and emergent presences in the landscape. From across these domains, and within the concerns of my thesis, I draw out three registers of conceptual attention comprising the materiality, the bodily affects and the ethical work of forging and sustaining worlds. I then expand on my ontology of involvement through the contributions of feminist science studies, assemblage theory and a dwelt perspective on ecological being and perception. In the closing sections I address more specifically this thesis' approach to doing 'animal history'.

## **2. Animal and avian geographies**

My concern with the osprey and its geographies ties my project to the concerns of the 'animal turn'. Through a great body of work since the mid-1990s, geographers have expanded the discipline's concern with animal life that was previously 'at best partial and at worst wholly exclusionary.'<sup>48</sup> I will briefly situate this thesis within the field of 'animal geographies' and its developments, exploring the ways in which wild ospreys are placed by humans and understanding these birds as active participants in geographies in their own right. I then expand on the particular contributions of work in avian geographies and how this feeds into the arguments of my thesis.

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*Signs* 28(3): 801-831; Barad K (2007) *Meeting the Universe Halfway: quantum physics and the entanglement of matter and meaning*.

<sup>47</sup> Ingold, T (2006) 'Rethinking the Animate, Re-Animating Thought' *Ethnos* 71(1): 9-20.

<sup>48</sup> Philo C (1995) *op cit.*: 656.



## Animal geographies

The contemporary subfield of animal, or 'more-than-human' geographies has emerged out of post-structural, post-colonial and feminist concerns with de-centring the traditional human subject, as well as in taking up the work of science studies scholars and their expanded notions of agency.<sup>49</sup> Within a wider shift away from ideas of objective reality or nature, and towards a practiced, constructed and more uncertain world, various authors explore the means by which animal subjects come to be formed via discourse and performance; how agency is distributed along relational chains; and the emergence of entities from heterogeneous networks, topologies or gatherings that together produce 'natures'.<sup>50</sup> Animal geographers explore how understandings of animal life are constructed in relation to understandings of the 'human' – the 'animal question' framed in terms of similarity and irreconcilable difference – shape how such beings are included, excluded or otherwise engaged with in the production of space.<sup>51</sup>

Animals in early animal geography often figured as metaphorical entities 'caught in the struggle for ideological control' over spaces or environments.<sup>52</sup> By contrast, 'new' or 'third wave' animal geography has championed a 're-politicisation of

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<sup>49</sup> Whatmore S (2006) 'Materialist returns: practicing cultural geography in and for a more-than-human world' *Cultural Geographies* 13(4): 600-609; see the work of Callon M (1984) 'Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay' *The Sociological Review* 32(S1): 196-233; Latour B (1987) *Science in Action: How to follow scientists and engineers through society*; (1988) *The Pasteurization of France*; Law J (2004) *After method: mess in the social sciences*.

<sup>50</sup> On disrupting ideas of a singular, objective nature see Deleuze G and Guattari F (2013) *op cit.*; Latour B (1991) *We Have Never Been Modern*; Foucault M and Gordon C (1980) *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977*; Evernden N (1992) *The Social Creation of Nature*; on the construction and performance of subjectivities see Adams C (1990) *The Sexual Politics of Meat*; Anderson K (1997) 'A walk on the wild side: a critical geography of domestication' *Progress in Human Geography* 21(4): 463-485; Butler J (1993) *Bodies That Matter: On the Discursive Limits of Sex*; Haraway D (1991) *Simians, Cyborgs, and Women: The Reinvention of Nature*; Seager J (1993) *Earth Follies: Feminism, politics and the environment*; and regarding a more relational geography of natures see Braun B (2008) 'Environmental issues: global natures in the space of assemblage' *Progress in Human Geography* 30(5): 644-654.

<sup>51</sup> Emel J, Wilbert C and Wolch J (2002) 'Animal Geographies' *Society & Animals* 10(4): 407-412; Fudge E (2002b) *Animal*.

<sup>52</sup> Proctor J (1998) 'The Spotted Owl and the Contested Moral Landscape of the Pacific Northwest' in Wolch J and Emel J (eds) *Animal Geographies: Place, Politics, and Identity in the Nature-Culture Borderlands* (Verso; London & New York): 213.

animals as bodies and voices' in the vein of 'strange persons'.<sup>53</sup> It is in this spirit that I seek to incorporate ospreys into Jennifer Wolch and Jody Emel's envisioning of a 'more inclusive social theory'.<sup>54</sup>

I want to understand how these birds have been 'placed'. I seek to locate human-osprey relations within their historically contingent socio-cultural, economic, political and moral geographies.<sup>55</sup> My consideration of the osprey also draws on the ways in which animal geographers have echoed wider (inter)disciplinary turns across their work. I conceptualise osprey conservation in terms of practice, embodiment and affect: something *done* or *felt* by a body and not merely discursively represented.<sup>56</sup> I look to avian and human subjectivities, spatial relations and the ethics of osprey conservation as relational and situated.<sup>57</sup> Moreover, I attend to the materiality of osprey-human relations: the mediating, compositional *stuff* enabling certain lives on Speyside and composing both ospreys and human 'in the flesh'.<sup>58</sup> Following contemporary animal geography scholarship in this way, I recognise ospreys as active in the shaping of multiple worlds and subjectivities.

The shifts in the sub-field are evident in animal geographers' enduring engagements with the 'wild'. Troubling a romantic notion of wildness as unpeopled or undomesticated nature, geographers have drawn upon, developed and deployed

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<sup>53</sup> Johnston C (2008) 'Beyond the clearing: towards a dwelt animal geography' *Progress in Human Geography* 32(5): 634; Philo C and Wilbert C (2000) 'Animal spaces, beastly places: an introduction' in Philo C and Wilbert C (eds) *Animal spaces, beastly places: new geographies of animal-human relations* (Routledge; London): 1-34; Urbanik J (2012) *Placing Animals: An Introduction to the Geography of Human-Animal Relations*: 36; Whatmore S and Thorne L (1998) 'Wild(er)ness: Reconfiguring the Geographies of Wildlife' *Transactions of the Institute of British Geographers* 23(4): 451.

<sup>54</sup> Wolch J and Emel J (1995) 'Bringing the animals back in' *Environment and Planning D: Society & Space* 13(6): 632.

<sup>55</sup> Jones O (2000) '(Un)ethical geographies of human-non-human relations: Encounters, collectives and spaces' in Philo C and Wilbert C (eds) *Animal Spaces, Beastly Places: new geographies of human-animal relations* (Routledge; London): 268-29; Philo C and Wilbert C (2000) op cit.: 5.

<sup>56</sup> See Brettell J (2016) 'Exploring the multinatural: mobilising affect at the red kite feeding grounds, Bwlch Nant yr Arian' *Cultural Geographies* 23(2): 281-300; Lorimer H (2008) 'Cultural geography: non-representational conditions and concerns' *Progress in Human Geography* 32(4): 551-559; Thrift N (2008) *Non-representational Theory: Space, Politics, Affect*.

<sup>57</sup> See Haraway D (2004) *The Companion Species Manifesto: Dogs, People and Significant Otherness*; (2008) op cit.; Massey D (2005) *For space*; Whatmore S (2002) op cit.

<sup>58</sup> See Anderson B and Wylie J (2009) 'On geography and materiality' *Environment and Planning A* 41(2): 318-335; Barad K (2007) op cit.; Bennett J (2010) *Vibrant Matter: A Political Ecology of Things*; Whatmore S (2006) op cit.

poststructural and environmental history criticisms of these discursive and romantic ideals.<sup>59</sup> Ospreys figure as ‘wild’ creatures in the conservation projects of the RSPB and others, and animal geographers recognise how this wildness is both evident in discourses about the birds *and* something practiced in the negotiation of proximities, distances and separations between them and humans.<sup>60</sup> ‘Wildness’ expresses itself in different forms in differing degrees of involvement across historical landscapes, less some intrinsic quality to being or space.<sup>61</sup> The wild appears in the agency of the birds themselves: an unpredictable, lively or surprising nature; a multiplicity of form; and a transgression of human spatial demarcations.<sup>62</sup> This wildness is a possibility for difference and the potential to be otherwise amidst or despite human involvement.<sup>63</sup> My understanding of ospreys emphasises that these birds are not ‘fixed’ in some determinate (biological, ecological or ethological) sense, but ongoing and active outcomes of associations reflecting movements through particular geographies.<sup>64</sup>

## Avian geographies

An avian subjectivity is one existing across the world; transcending terrestrial demarcations; living alongside and in spite of humans; and both influenced by and influencing of the presence of human activity. Birds are ‘geographical creatures’ and

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<sup>59</sup> See Anderson K (1997) op cit.; Cronon W (1996a) ‘The Trouble with Wilderness: Or, getting Back to the Wrong Nature’ *Environmental History* **1**(1): 7-28; (1996b) ‘The Trouble with Wilderness: A Response’ *Environmental History* **1**(1): 47-55; Ingold T (2000) op cit.

<sup>60</sup> See in particular works such as Brandin E (2009) ‘Versions of ‘wild’ and the importance of fences in Swedish wildlife tourism involving moose’ *Current Issues in Tourism* **12**(5-6): 413-427; Buller H (2004) ‘Where the wild things are: the evolving iconography of rural fauna’ *Journal of Rural Studies* **20**(2): 131-141; Whatmore S and Thorne L (1998) op cit.; (2000) ‘Elephants on the move: spatial formations of wildlife exchange’ *Environment and Planning D: Society and Space* **18**(2): 185-203;

<sup>61</sup> Lorimer J (2010a) ‘Elephants as companion species: the lively biogeographies of Asian elephant conservation in Sri Lanka’ *Transactions of the Institute of British Geographers* **35**(4): 491-506.

<sup>62</sup> See Benson E (2011b) ‘From Wild Lives to Wildlife and Back’ *Environmental History* **16**(3): 418-422; Brettell J (2016) op cit.; Hinchliffe S (2007) op cit.; Hinchliffe S, Kearns M, Degen M and Whatmore S (2005) ‘Urban Wild Things: A Cosmopolitical Experiment’ *Environment and Planning D: Society & Space* **23**(5): 643-658; Lorimer H (2010a) ‘Forces of Nature, Forms of Life: Calibrating Ethology and Phenomenology’ in Anderson B and Harrison P (eds) *Taking-Place: Non-Representational Theories and Geography* (Ashgate: Surrey): 55-78; Lorimer J (2008) ‘Counting Corncrakes: The Affective Science of the UK Corncrake Census’ *Social Studies of Science* **38**(3): 377-405; (2015) op cit.

<sup>63</sup> See also the discussions of Clark N (2011) *Inhuman Nature: Sociable Life on a Dynamic Planet*; Hird M (2010a) ‘Meeting with the microcosmos’ *Environment and Planning D: Society and Space* **28**(1): 36-38; Lorimer J (2015) op cit.

<sup>64</sup> Lulka D (2004) op cit.

a 'pervasive presence in various geographies': ideal subjects for more-than-human geographical scholarship.<sup>65</sup> Such work might be ambassadorial of a renewed 'biogeography', straddling the physical-human disciplinary divide.<sup>66</sup> Uniting work on the cultural 'placing' of birds with an understanding of winged biogeographies asks both how today's avian geographies have come to be and what they yield about the character of our own spatial existence.<sup>67</sup> In particular here I draw out three strands of geography, science studies and the social and environmental humanities on the subject of birds: the means by which humans attempt to know birds; birdlife as the subject of conservation or biosecurity 'biopolitics'; and avian agency as an animating, lively presence in environments, landscapes and geographies. Birds reflect continuing crossovers between concepts, literatures and approaches that fuelled the animal turn. Across these concerns I tease out a further three interlinked conceptual themes: materiality (the stuff of bodies, environments and relations); bodily capacities (what actors can do, how they are affected, and what they might be made capable of); and ethics (what lives or forms of life are permitted or valued where and when). These three registers will constitute the underlying refrain across this thesis' discussions.

### **Knowing Birds**

Underlying strategies of encountering, protecting and managing osprey life are the ways in which it is *known*. Within explorations of human-avian relations in the work of science and technology studies, there is important attention to the ways humans and birds engage and articulate their bodies towards each other within activities of observation, surveillance or monitoring. In Mark Bonta's terms, scientists, enthusiastic members of the public, and amateur field-researchers all attempt to 'become bird': they position themselves, extend their senses, and respond to space with a cultivated and learned awareness of how it might be inhabited or experienced by birds, with varying degrees of success.<sup>68</sup> In my own examination of how osprey behaviour was recorded (see Chapter 5) I draw from authors who have

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<sup>65</sup> Steinberg M (2010) 'Avifaunal research and geographical perspectives' *Geographical Review* **100**(2): iii.

<sup>66</sup> Lorimer J (2010a) op cit.; Spencer T and Whatmore S (2001) 'Editorial: Bio-geographies: putting life back into the discipline' *Transactions of the Institute of British Geographers* **26**(2): 139-141.

<sup>67</sup> Steinberg M (2010) op cit.

<sup>68</sup> Bonta M (2010) 'Ornithophilia: Thoughts on Geography in Birding' *Geographical Review* **100**(2): 149.

explored the historical and contemporary practices of ornithologists in different times and settings. This work emphasises the distributed material apparatuses that extend the senses, negotiate proximity, and enable one to enter into relation with birds. Binoculars, guides, lists, microphones, cameras and observation hides all offer possibilities for bodies to meet and respond, albeit with varying degrees of asymmetry. In expanding the limits of the senses, different versions of the bird or human are brought forth.<sup>69</sup>

Such work foregrounds the processes of ‘learning to be affected’ by birdlife.<sup>70</sup> Avian geographies are made legible alongside the emergence of human capabilities and skills that permit new ‘perceptual involvements’ in the world.<sup>71</sup> For those working with ospreys on Speyside, certain ways of seeing (or hearing) the birds, aided or frustrated by certain devices, perform human wardens variously as both scientists *and* bodyguards. The birds appear, similarly, as both objects of knowledge *and* living presences to be engaged.<sup>72</sup> Communities of bird-watching praxis are performed as ‘laminated assemblages’: the same devices are recombined in different ways to reach the different ends of scientific ornithology, bird protection or enthusiastic ‘twitching’.<sup>73</sup> Particular approaches and agreed-upon standards appear at different historical junctures within different groups and their relations with birds.<sup>74</sup> The osprey, of course, figures as a particularly charismatic entity around

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<sup>69</sup> See in particular the work of Chambers C (2007) ‘“Well it’s remote, I suppose, innit?”: The relational politics of bird-watching through the CCTV lens’ *Scottish Geographical Journal* **123**(2): 122-134; Law J and Lynch M (1988) ‘Lists, Field Guides, and the Descriptive Organisation of Seeing: Birdwatching as an exemplary observational activity’ *Human Studies* **11**(2): 271-303; Lorimer H (2007) ‘Songs from before: shaping the conditions for appreciative listening’ in Gagen E, Lorimer H and Vasudevan A (eds) *Practising the Archive: Reflections on Method and Practice in Historical Geography*. Historical Geography Research Series **40**: 57-73; Lorimer J (2008) op cit.; Matless D (2000a) ‘Versions of animal-human: Broadland, c.1945-1970’ in Philo C and Wilbert C (eds) *Animal spaces, beastly places: new geographies of human-animal relations* (Routledge; London & New York): 115-140.

<sup>70</sup> Latour B (2004b) ‘How to talk about the body? The normative dimension of Science Studies’ *Body & Society* **10**(2-3): 205-229.

<sup>71</sup> Ingold T (2000) op cit.: 353.

<sup>72</sup> See Despret V (2014) ‘Domesticating practices: The case of Arabian babblers’ in Marvin G and McHugh S (eds) *The Routledge Handbook of Human-Animal Studies* (Routledge; London & New York): 23-38.

<sup>73</sup> Prior P and Schaffner S (2011) ‘Bird Identification as a Family of Activities: Motives, Mediating Artefacts, and Laminated Assemblages’ *Ethos* **39**(1): 51-70.

<sup>74</sup> See, variously, the work of Cole E (2016) ‘Blown out: the science and enthusiasm of egg collecting in the Oologists’ Record, 1921-1969’ *Journal of Historical Geography* **51**: 18-28; Connell J (2009) ‘Birdwatching, Twitching and Tourism: Towards an Australian Perspective’

which to coalesce. They are large, visible, beguiling and display behaviours that are relatively easy to ‘attune’ to.<sup>75</sup> Such rare species affect a human enthusiasm for becoming involved in understanding or securing their existence. This enthusiasm forms the ‘vital glue’ for voluntary conservation initiatives.<sup>76</sup> Unsurprisingly, avian life is the most surveyed of all its diverse forms, via the extensive networks of voluntary and citizen science surveillance.<sup>77</sup> A microcosm of such involvement, the osprey monitoring project at Loch Garten has run for over six decades and accumulated one of the longest (and most detailed) continuous records of species observation.

Crucially, the bird is also understood to be an entity that can be ‘affected’ by its surroundings, and the presence of humans. Approaching ospreys and other birds in the field demands careful negotiations of distance or proximity to avoid disturbance or habituation.<sup>78</sup> There is an attention, particularly in the work of Vinciane Despret, to the ways in which birds might be made more or less ‘articulate’ within different research practices, strategies and discursive narratives that frame from the outset

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*Australian Geographer* 40(2): 203-217; Ellis R (2011) ‘Jizz and the joy of pattern recognition: Virtuosity, discipline and the agency of insight in UK naturalists’ arts of seeing’ *Social Studies of Science* 41(6): 769-790; Greer K (2009) ‘Ornithology on ‘The Rock’: Territory, Fieldwork, and the Body in the Straits of Gibraltar in the Mid-Nineteenth Century’ *Historical Geography* 37: 26-52; Lorimer H (2014) ‘Homeland’ *Cultural Geographies* 21(4): 583-604; Macdonald H (2002) ‘“What makes you a scientist is the way you look at things”: ornithology and the observer 1930–1955’ *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 33(1): 53-77.

<sup>75</sup> Lorimer J (2007) op cit.

<sup>76</sup> See the work of Massumi B (1996) as quoted in Lorimer J (2008) op cit.: 398.

<sup>77</sup> Davis S (2011) ‘Militarised natural history: Tales of the avocet’s return to postwar Britain’ *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 42(2): 226-232; Lorimer J (2006) ‘What about the nematodes? Taxonomic partialities in the scope of UK biodiversity conservation’ *Social and Cultural Geography* 7(4): 539-558; Toogood M (2008) ‘Beyond ‘the toad beneath the harrow’: geographies of ecological science, 1959–1965’ *Journal of Historical Geography* 34(1): 114-137; (2011) ‘Modern observations: new ornithology and the science of ourselves, 1920–1940’ *Journal of Historical Geography* 37(3): 348-357; Wernham C, Etheridge B, Holling M, Riddle G, Riley H, Stirling-Aird P, Stroud D, Thompson D and Wilson J (2008) ‘The Scottish Raptor Monitoring Scheme: Objectives, Achievements in the First Four Years and Plans for Future Development’ *Ambio* 37(6): 460-465.

<sup>78</sup> See Brower M (2011) *Developing Animals: Wildlife and Early American Photography*; Lestel D (2002) ‘The biosemiotics and phylogenesis of culture’ *Biology and social life* 41(1): 56; Reinert H (2013) ‘The Care of Migrants: Telemetry and the Fragile Wild’ *Environmental Humanities* 3: 1-24.

what a bird *can* do.<sup>79</sup> In the case of the osprey, the emergence of new nesting tolerances, or the discovery of birds that are more accommodating of human presence, reveal a malleable and capacious figure that, at first, was characterised as skittish and averse to disturbance. Likewise, humans in different guises – the sporting hunter, the protectionist, the ecological scientist, the visiting tourist to name a few – encounter and invoke different osprey figures.<sup>80</sup> In this vein, I take a ‘cosmopolitical’ approach to avian geographies framed in the work of Steve Hinchliffe and his collaborators.<sup>81</sup> Studying urban black redstarts (*Phoenicurus ochrurus*) and peregrine falcons (*Falco peregrinus*), theirs is a writing both aware of how different-human relations generate the potential to produce new avian ontologies and geographies, and with an openness for the capacity of birds to act in ways that surprise or confound narratives of a singular, settled nature.

### **Governing Birdlife**

Alongside investigating how humans have sought to ‘know’ ospreys, I am also concerned with how they have sought to govern these and other forms of avian life in different ways. Birds have provided many with a lens through which to discuss historic and contemporary conservation praxis. Of particular concern for this thesis, however, is how research on the conservation of birds and other animals might provide an opportunity to extend the concerns of Michel Foucault’s notion of ‘biopolitics’ onto animal life.<sup>82</sup> Foucault’s term considers ‘life itself’ as the object of governance. He examines the mechanisms by which the state monitors its subjects and figures the dimensions of their existence in terms of the notion of a ‘population’. Defined and constructed through identified characteristics and norms, populations can be acted upon, managed to be more productive, and secured against external threats. Particular activities within the populous that are socially useful can be promoted, whilst certain activities or circulations deemed harmful can

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<sup>79</sup> See in particular Despret V (2004) ‘The Body We Care For: Figures of Anthro-zoo-genesis’ *Body & Society* **10**(2-3): 111-134; (2006) op cit.; (2014) op cit.

<sup>80</sup> Matless D (2000a) op cit.

<sup>81</sup> See Hinchliffe S (2008) op cit.; Hinchliffe *et al* (2005) op cit.; Hinchliffe S and Whatmore S (2006) “Living Cities: Towards a Politics of Conviviality” *Science as Culture* **15**(2): 123-138; Stengers I (2005) ‘The Cosmopolitical Proposal’ in Latour B and Weibel P (eds) *Making Things Public: Atmospheres of Democracy* (MIT Press; Cambridge MA & London): 994-1005.

<sup>82</sup> Chrulew M (2012) ‘Animals in Biopolitical theory: Between Agamben and Negri’ *New Formations* **76**: 53-67

be disallowed.<sup>83</sup> The emphasis for Foucault is on the means by which certain forms of life are permitted over others, and the weighing of costs against acceptable levels of harm. In relation to bird life attempts to 'know' its existence come to enable the abstraction of a population's parameters such that they can be managed and governed.<sup>84</sup> Of course, when a species has endured a long history of involvement with, alongside management and persecution from humans, what constitutes a 'baseline' or the 'right number' of birds corresponding to a healthy population becomes harder to determine.<sup>85</sup> In the case of the Scottish osprey, this often involves guesswork based on historical records or observations in analogous ecosystems.<sup>86</sup>

As I describe in relation to the protection of the osprey at Loch Garten, avian populations and individual bird bodies become both the object of and subject to certain kinds of overlapping biosecurity efforts. Different interventions attempt to define and protect against threats to bird life including the effects of pesticide use, the impacts of egg-collecting, or widespread threats of persecution.<sup>87</sup> Moreover, as part of a wider ecosystem, the presence of certain birds like the osprey, as charismatic 'umbrella' species, mobilise support to preserve particular habitats (containing other, less photogenic creatures) or serve to legitimate claims that areas are thriving again in the wake of polluting events.<sup>88</sup> Thus, conservation initiatives have sought to foster osprey lives via protective measures at a variety of sites and against a variety of historically emergent threats by way of public enthusiasm and

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<sup>83</sup> See in particular Foucault M (1978) *The History of Sexuality, Vol. 1: An Introduction*: 135-159; (2004) op cit.; (2007) *Security, Territory, Population: Lectures at the Collège de France, 1977-78*.

<sup>84</sup> See Biermann C and Mansfield B (2014) 'Biodiversity, purity, and death: conservation biology as biopolitics' *Environment and Planning D: Society & Space* **32**(2): 257-273; Braverman I (2015) *Wild Life: The Institution of Nature*; Chrulew M (2011) 'Managing Love and Death at the Zoo: The Biopolitics of Endangered Species Preservation' *Australian Humanities Review* **50**: 137-157; Srinivasan K (2014) 'Caring for the collective: biopower and agential subjectification in wildlife conservation' *Environment and Planning D: Society & Space* **32**(3): 501-517.

<sup>85</sup> Hermann B and Woods W (2010) 'Neither Biblical Plague Nor Pristine Myth- A Lesson from Central European Sparrows' *Geographical Review* **100**(2): 178.

<sup>86</sup> See discussion in Dennis R (1991) *Ospreys*.

<sup>87</sup> See Bingham N, Enticott G and Hinchliffe S (2008) 'Biosecurity: spaces, practices, and boundaries' *Environment and Planning A* **40**(7): 1528-1533.

<sup>88</sup> Krupar S (2013) *Hot Spotter's Report: Military Fables of Toxic Waste*; Lintot S (2006) 'Toward Eco-Friendly Aesthetics' *Environmental Ethics* **28**(1): 57-76; Proctor J (1998) op cit.



support for the protection of specific breeding sites where the vital work of reproduction – ‘the meeting point of the population and the body’ – is done.<sup>89</sup>

In conservation projects the unruliness of avian life – and its unwillingness to abide by terrestrial political boundaries – presents a challenge to the ‘rationalising’ imperative of conservation practice. Ospreys have at times opted to nest outwith the bounds of measures designed to protect them. Their colonising of new nesting site demonstrates them as innovative, adaptive beings. Elsewhere, avian presence appears immanent within the experimental practices of rewilding and conservationists attempt to experimentally manage the emergence of species as part of ‘re-wilded’ ecologies.<sup>90</sup> Bird species and communities can also appear as threats because of this unruliness: mobile as carriers of disease into both human and nonhuman populations or as pests that threaten human livelihoods or economic activities like agriculture.<sup>91</sup> The nature of particular instances of bird life are variably seen historically as detrimental to certain human activities – such as highland sport or agriculture – or beneficial to others – such as in the case of the osprey as a tourist attraction and economic asset.<sup>92</sup> In both matters of conservation and biosecurity, intervention into avian geographies involves awkwardly knotted practices of both violence and care.<sup>93</sup> Conservation works on and through the bodies of individual birds, some of which receive exceptional attention whilst others lead diminished lives, or are subjected to more risky interventions for the sake of ‘the population’.<sup>94</sup>

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<sup>89</sup> Chrulew M (2011) op cit.: 147.

<sup>90</sup> Lambert R (2011) op cit.; Lorimer J and Driessen C (2013) ‘Bovine biopolitics and the promise of monsters in the rewilding of Heck cattle’ *Geoforum* **48**: 249-259.

<sup>91</sup> See Hinchliffe S, Allen J, Lavau S, Bingham N and Carter S (2013) ‘Biosecurity and the topologies of infected life: from borderlines to borderlands’ *Transactions of the Institute of British Geographers* **38**(4): 531-543; Hinchliffe S and Bingham R (2008) ‘Securing Life: The Emerging Practices of Biosecurity’ *Environment and Planning A* **40**(7): 1534-1551; McKiernan S and Instone L (2015) ‘From pest to partner: rethinking the Australian White Ibis in the more-than-human city’ *Cultural Geographies* [Published online before print, doi: 10.1177/1474474015609159]; Palmer C (2003) ‘Placing Animals in Urban Environmental Ethics’ *Journal of Social Philosophy* **34**(1): 64-78.

<sup>92</sup> See Hinchliffe S and Bingham N (2008) op cit.; Hinchliffe S *et al* (2012) op cit.; Lovegrove R (2007) *Silent Fields: The long decline of a nation’s wildlife*; Thompson P, Amar A, Hoccom D, Knott J and Wilson J (2009) ‘Resolving the conflict between driven-grouse shooting and conservation of hen harriers’ *Journal of Applied Ecology* **46**(5): 950-954.

<sup>93</sup> Lorimer J (2014) ‘On Auks and Awkwardness’ *Environmental Humanities* **4**: 195-205.

<sup>94</sup> Chrulew M (2011) op cit.; Michel S (1998) ‘Golden Eagles and the Environmental Politics of Care’ in Wolch J and Emel J (eds) *Animal Geographies: Place, Politics, and Identity in the Nature-*

### **Birds as lively presences**

The final strand of avian scholarship that I want to explore within the more-than-human corpus concerns avian life as dwelt, lively and historically contingent. Birds form a recognisable component of the broader phenomenological and practiced nature of landscape. They are involved in the regional and national identities that emerge.<sup>95</sup> Species like the osprey are constituents of past and present 'animal landscapes' marked by their dominant human practices (like hunting, naturalism or protection) and moral geographies.<sup>96</sup> Birds' relationships with place and people exhibit a rhythmic temporality, a refrain of territorial inhabitations. The osprey migrates and, upon its return, signals ownership of a nesting site through vocalisations and movements that both perform and conjure territory via the affects of body and song. It is in this way that Deleuze and Guattari talk of birds' song and displays as 'territorialising'. For these authors, 'home does not pre-exist' but rather comprises a territoriality invoked in the 'territorial motifs' of rhythmic expression, performing the dimensions of a spatial claim.<sup>97</sup> The rhythms of osprey life at the nest mesh with the rhythms of wider landscapes to generate particular milieus of activity.<sup>98</sup>

Such attention to the cultural, historical and contingent lifeworlds of birds challenges prevalent taxonomic or biological definitions of bird species. This is particularly notable in the work of environmental humanities scholar Thom van Dooren. He argues that bird communities are the result of inter-species becomings – often involving humans. He conceptualises avian species-being as a 'flight way': 'a complex and precious *way of life*' emerging and woven through the situated inheritances and relations of an ecological community.<sup>99</sup> Van Dooren's stories of albatrosses, vultures, penguins, cranes and crows emphasise an ethic of avian flourishing concerned with the conditions for life as a relational achievement. Such

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*Culture Borderlands* (Verso; London & New York): 162-187; van Dooren T (2014) *Flight Ways: Life and Loss at the Edge of Extinction*.

<sup>95</sup> Greer K and Cameron L (2006) "'Swee-ee-et Cán-a-da, Cán-a-da, Cán-a-da": Sensuous Landscapes of Birdwatching in the Eastern Provinces, 1900-1939.' *Material Culture Review* 62(Autumn 2006): 35-43; Macdonald H (2002) op cit.

<sup>96</sup> Matless D, Merchant P and Watkins C (2005) 'Animal landscapes: otters and wildfowl in England 1945-1970' *Transactions of the Institute of British Geographers* 30: 191-205.

<sup>97</sup> Deleuze G and Guattari F (2013) op cit.: 362, 369.

<sup>98</sup> See Lorimer H (2010a) op cit.

<sup>99</sup> van Dooren T (2014) op cit.: 8. [orig. emphasis]

conditions are constituted and sustained through the relations within and across species both in the present and past. Thus, the historical continuity of bird life depends upon context-specific questions of ‘how to inherit’ that ask which capacities or characteristics of a previous generation are maintained and which are denied from continuing.<sup>100</sup> In the case of the osprey, I explore how protection and conservation efforts shape nest sites and their surrounding environments with impacts for future dwellings there. Thus, avian landscapes also demonstrate the existence of geographically and historically specific dialects, behaviours or capacities for niche building on the part of birds (see Chapter 6).<sup>101</sup>

Subsequently, as certain bird species become absent the character of place is transformed. Landscapes are produced and animated by both corporeal presences and absences.<sup>102</sup> The loss of house sparrows (*Passer domesticus*) from the green spaces of London or, more pertinently, of ospreys from the lochs of northwest Scotland, narrows the character of space, subtracting from its ‘possible becomings’.<sup>103</sup> The loss of avian inhabitants is the loss of sensing and sensed bodies, voices and ecological agents.<sup>104</sup> The resulting scholarship appreciates the multi-species, intergenerational ‘storying’ of place and the manner in which birds come to be bound up with local sensibilities, practices and identities that also disappear when winged kin are rendered extinct.<sup>105</sup>

To summarise, in my exploration of the geographies of osprey conservation I draw from literature concerning avian-human relations as well as the wider animal geography corpus. Such literature has emphasised the ways in which humans have

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<sup>100</sup> Haraway D (2008) op cit.: 35.

<sup>101</sup> See Hansell M (2000) *Bird Nests and Construction Behaviour*; Lestel D (2002) op cit.: 58.

<sup>102</sup> Wylie J (2007) *Landscape*; (2009) ‘Landscape, absence and the geographies of love’ *Transactions of the Institute of British Geographers* 34: 275-289.

<sup>103</sup> Whale H and Ginn F (forthcoming) ‘In the absence of sparrows’ in Landman K and Consulo-Wilcox A (eds) *Environment as/and Mourning* (McGill-Queen’s University Press; Montreal & Kingston).

<sup>104</sup> See Lorimer J (2014) op cit.; van Dooren T (2015) ‘Authentic Crows: Identify, Captivity and Emergent Forms of Life’ *Theory, Culture & Society* [Online access ahead of print, doi: 10.1177/0263276415571941]; Whitehouse A (2015) ‘Listening to Birds in the Anthropocene: The Anxious Semiotics of Sound in a Human-Dominated World’ *Environmental Humanities* 6: 53-71.

<sup>105</sup> Ingold T (2011) *Being Alive: Essays on movement, knowledge and description*; van Dooren T and Rose D-B (2012) ‘Storyed-places in a multispecies city’ *Humanimalia* 3(2): 1-27.

sought to know birds; how various bird species are caught up in the biopolitics of conservation and production; and how avian presences are understood to enliven landscapes and ecologies. At a more abstractly conceptual level, for my purposes I tease out three strands of attention from this work. Firstly, I am interested in the materiality of human-bird relations as they appear in this literature: the means by which ospreys are protected and managed within conservation projects; the devices that mediate between human and osprey; and a more distributed sense of the environmental conditions that shape and are shaped by osprey presence. Secondly, this work's attention to avian and human bodily affects: how humans tune into the osprey worlds, learning their ways; how ospreys in turn respond to human presence with flight or indifference; and the affective qualities that birds conjure in the landscape. Finally, I attend to the ethical tensions of human-bird relations: the kinds of osprey life that are produced; what humans are permitted to do to ospreys under particular circumstances; and what futures are opened or closed as a result of historical relationships and extinctions. This refrain brings me to my framing of osprey life as *involvement*.

### **3. Life as involvement**

I engage with historical osprey life through the work of philosophers who have developed theory inspired by the processes and study of ecologies, rather than transposing avowedly 'social' concepts onto an externalised nonhuman nature.<sup>106</sup> Such vitalist or 'live' theory takes notions of relationality within understandings of biology, ecology and animal behaviour as a starting point from which to conceptualise a more lively animal geography.<sup>107</sup> I develop an understanding of life as involvement to hold in tension both individual animal and human actors and multispecies communities; the geographical practices of humans and nonhumans; and the situated emergence of specific differences alongside the longer-term becomings that such difference might trigger. This conceptual framing puts into conversation ideas of dwelling, involution and attachment to take relational becoming as the norm, and stasis the exception. I begin with a brief overview of

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<sup>106</sup> Hird M (2010b) 'Coevolution, Symbiosis and Sociology' *Ecological Economics* **69**(4): 737-742.

<sup>107</sup> To take inspiration from the characterization of Haraway's work by Schneider J (2005) *Donna Haraway: Live Theory*.

alternative conceptions of life as actively relational within understandings of evolutionary biology, ecological community and the ethology of 'animal culture'.

## **Towards co-evolution and involvement**

An immediate starting point, relational inspiration comes in the form of microbial and evolutionary biologists Lynn Margulis and Dorion Sagan and their theory of 'symbiogenesis'. Margulis and Sagan's work starts from a premise that '[n]o life on earth consists of unassociated individuals' and that if one wishes to understand how beings survive one should attend to the relationships in which they are emerged.<sup>108</sup> They locate the 'engine of evolution' not in the inheritance of random genetic mutation, but in the bodily intermingling facilitated by the proximity of organisms in symbiosis and allowing of the transfer and acquisition of genomes and new biological traits, even the emergence of multi-species 'consortiums'.<sup>109</sup> These assemblages are, argue Margulis and Sagan, effectively new life forms. Eventually, 'neither organism exists without the other.'<sup>110</sup> A 'symbiogenetic' understanding of the 'tree of life' is therefore not arborescent but *rhizomatic*: branches are not isolated once they split; rather they entwine, conjoin and potentially merge back together.<sup>111</sup> Notions of the autonomous individual are rejected; organisms are figured as mobile and permeable assemblages, produced and remade through lived interactions with their environments.<sup>112</sup>

To go from evolution to ecology, all human and nonhuman organisms can be understood to live in 'ecological communities' that are '*symbionts all-the-way-down*.'<sup>113</sup> Ecologists have long been interested in the flows and circulations of the natural world, be they positive or toxic, stressing webs of intimate material connection.<sup>114</sup> Within the Gaia theory of James Lovelock, the biosphere is a complex and self-regulating system in which new forms emerge within the laws of thermodynamics to offset energy imbalances, maintaining the health of

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<sup>108</sup> Margulis L and Sagan D (2002) *Acquiring Genomes: A Theory of the Origins of Species*: 51, 75.

<sup>109</sup> Margulis L and Sagan D (2002) op cit.: xvi.

<sup>110</sup> Margulis L and Sagan D (2002) op cit.: 12.

<sup>111</sup> Margulis L and Sagan D (2002) op cit.: 34

<sup>112</sup> Margulis L and Sagan D (2002) op cit.: 19.

<sup>113</sup> Hird M (2010a) op cit.: 37.

<sup>114</sup> See for example the work of Carson R (1965) *Silent Spring*.

environments as a whole.<sup>115</sup> Margulis and Sagan develop this idea in their own work to argue of life as organising towards equilibrium.<sup>116</sup> Equally, is a realisation, taken up both in philosophical scholarship and empirical concerns with an 'urban wild', of life's ability to colonise new spaces or carve out new niches.<sup>117</sup> Such 'recombinant ecologies' – novel communities of plants and animals – can emerge as the result of human activity either deliberately or indirectly pushing species together.<sup>118</sup> Ecologies tend towards heterogeneity and it takes effort to render them homogenous.<sup>119</sup> Thus, there is a sense that as well as being immersed in relations and communities beings inherit them too, following ancestors' efforts to alter, optimise or extract materials for their own needs.

But ecologies are more than just the circulation of chemical and physical stimuli, or the pursuit of low energy costs. They include behaviours, shaped in the affective as much as the metabolic meeting of beings.<sup>120</sup> The subfield of ethology has always been more willing to grant a certain level of personhood to the nonhuman. Contemporary scholarship shows recognition of the capacity for new behaviours and habits to emerge in animals through relationships with both human and other forms of life.<sup>121</sup> Dominique Lestel recognises the existence of 'animal cultures', which are not necessarily comprised of causal behaviours but emerge nonetheless during the 'life process'.<sup>122</sup> He argues that many species, as I describe for the osprey, express ways of living in their environment – behaviours, building practices and dialects – passed and developed between generations and thus characterised by a tangible 'historicity'.<sup>123</sup> Such an understanding is suggestive of an experimental ethological approach that sees it as more interesting to ask what animals *might* be

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<sup>115</sup> See for example Lovelock J (2000) *Gaia: A New Look at Life on Earth*.

<sup>116</sup> Margulis L and Sagan D (2002) op cit.: 43-47.

<sup>117</sup> Such as Hansell M (1984) *Animal Architecture and Building Behaviour*; Laland K, Odling-Smee J and Feldman M (2000) 'Niche construction, biological evolution, and cultural change' *Behavioural and Brain Sciences* **23**(1): 131-175.

<sup>118</sup> Meurk C (2010) 'Recombinant ecologies of urban areas: Characterization, context and creativity' in Douglas I, Goode D, Houck M and Wang R (eds) *The Routledge Handbook of Urban Ecology* (Routledge: London & New York): 198.

<sup>119</sup> DeLanda M (2000) *A Thousand Years of Nonlinear History*.

<sup>120</sup> Hustak C and Myers N (2012) op cit.: 78-79.

<sup>121</sup> See Lorenz K (1972) *King Solomon's Ring*; Lorimer H (2010a) op cit; von Uexküll J (2010) *A Foray into the Worlds of Animals and Humans*;

<sup>122</sup> Lestel D (2002) op cit.: 49.

<sup>123</sup> Lestel D (2002) op cit.: 58.

capable of, and how they may be better articulated throughout the research process, that to define in advance their capacities for action.<sup>124</sup>

## **Developing Theories of Involvement**

I want to draw upon these broader moves toward partnership, symbiosis and collaborative becoming in my thesis' understanding of osprey history on Speyside. I understand osprey life in terms of the conditions for its historical composition. Ospreys flourish within contingent communities, including a variety of human and nonhuman bodies. I put into conversation the work of three influential thinkers, offering reverberating insights into a conceptualising of life as involved, under formation, and available for interrogation in terms of its historical geographies. In turn, I develop and build on ideas of a *dwelt ecology* – of perception, action and relation as occurring immersed in the world; *involution* – the notion that change and new forms primarily arise in 'blocks' of relating between heterogeneous elements; and *sites of attachment* – as 'companionship' is crafted in zones of contact marked by experimentation, (re)composition and intercommunication. Together, these ideas characterise my notion of osprey life as involved.

### **A Dwelt Perspective**

First, I want to draw upon a notion of life as dwelt, particularly in the work of anthropologist and archaeologist Tim Ingold. He argues that rather than traverse over the surface of the world, we are immersed and dwell *in* amongst it. To live is to dwell: there is no perception or action outside of immersion within our surroundings.<sup>125</sup> To be cut off from the flows, sensations, forces and media of the world is to be dead, rather than 'unconnected' – starkly contrasting Ingold's notions of connection with the topology of actor-network theory.<sup>126</sup> In relation in the world, one is not connected to earth, air or water but *submerged* within these media, the characteristics of which make certain forms of agency and expression possible. By extension, Ingold argues that in terms of action, we do not perceive or act on the world but in it and through it. Drawing no *a priori* distinction between human or animal, he prefers to separate the world into those are capable of coordinating

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<sup>124</sup> See Despret V (2005) op cit.; Lestel D *et al* (2012) op cit.

<sup>125</sup> Ingold T (2000) op cit.: 172-188.

<sup>126</sup> Ingold T (2008) 'When ANT meets SPIDER: Social theory for arthropods' in Knappett C and Malafouris L (eds) *Material Agency: Towards a Non-Anthropocentric Approach* (Springer; New York): 209-215.

perception and action, and those that are incapable of perception (essentially an organic/nonorganic dichotomy). Agency, therefore, is figured in terms of a practical ability to perceive and respond to the affordances of an environment. That is, drawing from the work of psychologist James Gibson, responding to the ways in which our surroundings suggest or permit certain kinds of action in accordance with our relative position or the characteristics of our body.<sup>127</sup>

Therefore, whilst humans and animals might each be capable of feats others are not, both 'participate in the same world' and 'really are alive'.<sup>128</sup> Living subjects are not static but on-going events of creativity that unfold along the 'pathways of their involvement in the world'.<sup>129</sup> I take Ingold's sentiments regarding life as a processual and immersed business as the means to cultivate both a more balanced and open-ended consideration of human and animal agents:

'Every living being, as it is caught up in this process and carries it forward, arises as an undivided centre of awareness and agency [...] Thus personhood, far from being 'added on' to the animal, is implicated in the very condition of being alive. Animals are not just *like* persons, they *are* persons. As organism-persons and fellow participants in the life process, human beings and non-human animals are ontologically equivalent. It follows that it is no more anthropomorphic to liken the animal to the human than it is zoomorphic to liken the human to the animal.'<sup>130</sup>

To craft an approach to the study of osprey geographies that recognises the birds as lively and active, I begin from a notion of animal life as dwelling in the environment. This is not to render the osprey 'as a human figure' but to encounter animals as dynamic aggregates of lived experience. Neither is this to equate human and osprey in terms of their capacities, or the 'heft' of their agency. Instead, it is simply to have the scope to accommodate differential expressions of agency in all their myriad beastliness.<sup>131</sup> In this manner, I grasp Ingold's suggestion to 'rewrite the history of human-animal relations', beginning by 'taking this condition of active engagement, of being-in-the-world, as our starting point.'<sup>132</sup>

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<sup>127</sup> Specifically see Gibson J (1986) *The Ecological Approach to Visual Perception*.

<sup>128</sup> Ingold T (1994) 'Preface to the paperback edition' in Ingold T (ed) *What is an animal?* (Routledge; London & New York): xxii.

<sup>129</sup> Lestel D (2002) op cit.; Ingold T (2006) op cit.: 14.

<sup>130</sup> Ingold T (1994) op cit.: xxiv.

<sup>131</sup> Johnston C (2008) op cit.: 640.

<sup>132</sup> Ingold T (2000) op cit.: 76.



### **Involution, Blocks of Becoming and Deleuzian Life**

Ingold sees the parallels between his work and the nebulous philosophy of Giles Deleuze and Felix Guattari. These authors, like Ingold, direct a vitalist sensibility to account for how 'materials of all sorts [...] mix and meld with one another in the generation of things.'<sup>133</sup> Deleuze's conceptualisation of life within his solo and collaborative writings figures nature as 'a process of production.'<sup>134</sup> 'Life' is the capacity for novel emergence within this process. It is characterised by the continual emergence of new forms and properties from a field of unending possibility that he terms the 'virtual'.<sup>135</sup> This approach to life resonates with symbiogenetic and evolutionary theories of biology. The forces for genetic change are located within a 'shifting, fluid set of milieus'.<sup>136</sup> Organisms, emergent from the multiple, overlapping 'rhythms' of different metabolic, organismic and otherwise materially lively processes, represent a 'limitation' of the life process. Certain flows, forces and relations are curtailed in the sedimented and stratified cohering of a territorialised body. But the boundaries enacted, or the 'cuts' made to differentiate agents, are always determined *within* relations, never prior to the meeting or outside of the relating.<sup>137</sup> The organism is thus 'a phenomenon of accumulation, coagulation, and sedimentation', arising from the 'primordial soup' of relations. The osprey forms in the egg, as the container for a field of virtual or possible relations. The organism of the bird either coagulates through the repetition of chemical and physical processes, or goes awry (perhaps in the presence of some other, subversive agent), producing new forms of difference.<sup>138</sup>

Within this relational, lively, unpredictable and material understanding of life I find a second component for an involved approach. I draw upon the notion of 'involution', and its associated 'blocks of becoming', as a feature of Deleuze's work

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<sup>133</sup> Ingold T (2010) 'Bringing Things to Life: Creative Entanglements in a World of Materials' *NCRM Working Paper 05/10* [Accessed on 12 December 2013 at [http://eprints.ncrm.ac.uk/1306/1/0510\\_creative\\_entanglements.pdf](http://eprints.ncrm.ac.uk/1306/1/0510_creative_entanglements.pdf)]: 2.

<sup>134</sup> Deleuze G and Guattari F (2000) *Anti Oedipus: Capitalism and Schizophrenia* Vol. 1: 2.

<sup>135</sup> See Deleuze G (2014) *Difference and Repetition*; Protevi J (2012) 'Deleuze and Life' in Smith D and Somers-Hall H (eds) *The Cambridge Companion to Deleuze* (Cambridge University Press; Cambridge & New York): 240, 248.

<sup>136</sup> Marks J (2006) 'Molecular Biology in the Work of Deleuze and Guattari' *Paragraph* 29(2): 94.

<sup>137</sup> Barad K (2007) *op cit.*: 180-181.

<sup>138</sup> Deleuze G and Guattari F (2013) *op cit.*: 184, 190.

with Felix Guattari. Rather than organisms forming and cohering solely by way of the longer-term becomings of genetic inheritance or mutation, as Darwin implies, Deleuze and Guattari argue that it is in the intermingling of beings – ‘evolution between heterogeneous terms’ – that one finds both the promise of creativity and forces conducive to originality.<sup>139</sup> The becomings that result ‘bring into play beings of totally different scales and kingdoms’. They do not spread by ‘filiation’ but ‘contagion’: the infection of one being with the presence of another, the capture of beings into contingent moments of alliance. This is a rhizomatic ecology akin to that of Margulis and Sagan. No connection is foreclosed, new beings potentially result from all meetings. They use the term ‘involution’ to describe this process, celebrating its anarchic cross-pollinations, hybridisations, and conjugations.<sup>140</sup> In short, it is involvements *between* organisms that provide the main conduit for the abundance of different ‘natures’ in the world; ‘[b]ands, human or animal, proliferate by contagion, epidemics, battlefields, and catastrophes’:

Unnatural participations or nuptials are the true Nature spanning the kingdoms of nature. [...] The difference is that contagion, epidemic, involves terms that are entirely heterogeneous: for example, a human being, an animal, and a bacterium, a virus, a molecule, a microorganism. Or in the case of the truffle, a tree, a fly and a pig. These combinations are neither genetic or structural; *they are interkingdoms, unnatural participations.*<sup>141</sup>

For my understanding of involvement, I develop this notion of ‘interkingdoms’, the products of ‘unnatural participation’ from what Deleuze and Guattari term ‘blocks of becoming’.<sup>142</sup> To be involved is ‘to form a block that runs its own line "between" the terms in play’.<sup>143</sup> Deleuze and Guattari frequently return to the example of the orchid and the wasp; the flower mimicking the insect in order that the latter might be attracted to receive and spread its pollen in a contingent, cross-species relation of alliance.<sup>144</sup> Both orchid and wasp are bound together as a ‘block-system’ that, in turn, generates a new raft of possibilities for each ‘down a line of flight that sweeps away selective pressures’.<sup>145</sup> New forms and assemblages endure, creating new

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<sup>139</sup> See the work of Grosz E (2004) *The Nick of Time: Politics, evolution and the untimely*.

<sup>140</sup> Deleuze G and Guattari F (2013) op cit.: 278-279, 292-293.

<sup>141</sup> Deleuze G and Guattari F (2013) op cit.: 282 [my emphasis]

<sup>142</sup> Deleuze G and Guattari F (2013) op cit.: 301.

<sup>143</sup> Deleuze G and Guattari F (2013) op cit.: 278.

<sup>144</sup> The example also features in the discussion of Hinchliffe S (2007) op cit.: 73-75; Hustak C and Myers N (2012) op cit.

<sup>145</sup> Deleuze G and Guattari F (2013) op cit.: 342.

possibilities for survival. Flourishing partnerships can prove the conduit for new communities. I argue that the osprey-human forms a 'block of becoming' on Speyside that cannot be understood without the other's (often asymmetrical) involvement in the story.

Furthermore, the orchid and the wasp demonstrate, via the notion of beings' 'co-evolution', that environmental processes themselves operate against conceptualisations of a purified or singular 'Nature'.<sup>146</sup> Existence is marked by its modes of 'becoming' – of re-articulating, re-activating, and being in formation – and all becoming occurs in some form of blocked coexistence. Multiple 'natures' – and 'multinatural' geographies – are the result of these partial connections and unfinished, messy meetings.<sup>147</sup> In the case of the osprey, I approach nature on Speyside as the result of its relations with humans (and occasionally other agents). The natures of the osprey's world are 'empirical matters' to be accounted for, rather than the static baselines of determinate outcomes of action. The ospreys that meet with humans at various points in the environment never exhaust all of themselves, and there is always room for them 'to spring surprises'.<sup>148</sup>

### **Sites of attachment and companion species**

As a third theoretical resource, I draw on Donna Haraway's spatial terminology of the 'attachment sites' or 'contact zones' at which species being is actively made. Haraway characterises interspecies being in terms of her concept of 'companion species', resonant of the contingent blocks or alliances that for Deleuze and Guattari open up new lines of flight. Hers is a less explicitly 'excessive' or anarchic approach to nature. Quietly radical, she is more interested in celebrating the mundanity of relational composition through grounded and situated examples of species meetings.<sup>149</sup> Her notion of companion species – derived in a large part from reflections on the nature of her own companion relationship with her dog (though she stresses that companion animals are merely one expression of a companion species relationship) – explores how both humans and other creatures have

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<sup>146</sup> Hinchliffe S (2007) op cit.: 4.

<sup>147</sup> See Latour B (2004b) *Politics of Nature: How to Bring the Sciences into Democracy*; Lorimer J (2012) 'Multinatural geographies for the Anthropocene' *Progress in Human Geography* 36(5): 593-612.

<sup>148</sup> Hinchliffe S (2007) op cit.: 74-75.

<sup>149</sup> Haraway D (2008) op cit.: 139.

'become-with' each other. All becoming is figured as to '*become with many*.'<sup>150</sup> All life is composed of companion species engaged in 'a dance linking in and kind' that is both fleshy and corporeal, and concerned with how beings 'inhabit an inter-subjective world' of regard, response and respect.<sup>151</sup> At its heart, then, the companion species thesis argues that '[d]omestication matters; companionship is default.'<sup>152</sup> It is a relational ontology epitomised in the statement 'I am who I become with companion species.'<sup>153</sup>

In terms of my thesis, the companion species figure holds onto what Deleuze and Guattari might term the longitude and latitude of osprey being.<sup>154</sup> Birds are historically contingent compositions of genetic material, part of the basis of a species' inherited 'naturalcultural legacy'. They are also the active outcomes of their relations with and across a world of inhabitants, relations that bring forth new capacities for acting.<sup>155</sup> There is an active and ethical attention in Haraway's writing, in which 'caring for, being affected, and entering into responsibility are not ethical abstractions' but the result of 'having truck with each other' as bodies that meet.<sup>156</sup> In particular, it is her geographical sensibility when articulating companion species relations that proves most useful for my thesis. She directs attention to the practical, empirical matters of 'how things work, who is in the action, what might be possible, and how worldly actors might somehow be accountable to and love each other less violently.'<sup>157</sup> The coming together of beings into companionship occurs at sites of attachment where 'sticky knots' are tied between those involved. Her theory is a resource and a call to explore 'the vast diversity of free ranging companion species with whom we co-inhabit', beyond her immediate human-canine focus, and the ways in which these can appear violent or fraught.<sup>158</sup> There is no clean encounter, there is a great deal of productive 'indigestion'. 'Encounterings do not produce

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<sup>150</sup> Haraway D (2008) op cit.: 4 [my emphasis].

<sup>151</sup> Haraway D (2004) op cit.: 34.

<sup>152</sup> Lorimer J (2010a) op cit.: 503.

<sup>153</sup> Haraway D (2006) 'Encounters with companion species: Entangling Dogs, Baboons, Philosophers and Biologists' *Configurations* **14**(1-2): 97-114.

<sup>154</sup> See Deleuze G and Guattari F (2013) op cit.: 299-300.

<sup>155</sup> Haraway D (2008) op cit.: 16, 250.

<sup>156</sup> Haraway D (2008) op cit.: 36.

<sup>157</sup> Haraway D (2004) op cit.: 7.

<sup>158</sup> Lorimer J (2010a) op cit.: 503; see also Ginn F, Beisel U and Barua M (2014) 'Flourishing with Awkward Creatures: Togetherness, Vulnerability, Killing' *Environmental Humanities* **4**: 113-123.

harmonious wholes', nor do 'smoothly preconstituted entities' meet in some original encounter: 'there is no first place.'<sup>159</sup>

The specifics of the osprey-human relationship arise in its temporally fluctuating, partial and complicated nature. It is worked through, and productive of, different spaces, than – say – the constant and intense proximities of the hawk and hawk.<sup>160</sup> To this end, I address the attachment sites and contact zones (a term Haraway develops from the work of Mary Louise Pratt) *where* species meet and respond to one another.<sup>161</sup> These sites are characterised in Haraway's writing in terms of a tangling of agencies that 'redo everything they touch.'<sup>162</sup> For animal geographers – and osprey conservationists – place is made as species meet, and one can interrogate the spatial dimensions of meetings with the aim of promoting better ways of living together.<sup>163</sup> Thus, in Haraway's thought I find a means of *locating* the nebulous involutions of Deleuze and Guattari in the specific meetings of bodies within environments, and the consequences for those involved.

It is in this context that I pursue a notion of involved life out of the work of Tim Ingold, Giles Deleuze, Felix Guattari, and Donna Haraway to develop my own 'involutionary mode of attention'.<sup>164</sup> I look to empirically unpack the practices through which ospreys and humans make each other up, and are brought to bear on each others' futures, in material, affective and significant and 'interpenetrating' forms of relation.<sup>165</sup> From Ingold, I begin with a commitment to account for all subjects in their dwelt formation, as on-going nodes of creativity that become what they are 'in the play of the world', rather than despite of or in addition to it. This requires attending to the conditions amidst which ospreys' agency unfolds as much as the character of that agency. I use the work of Deleuze (with Guattari) to

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<sup>159</sup> Haraway D (2008) op cit.: 287.

<sup>160</sup> See the prose of Macdonald H (2014) *H is for Hawk*.

<sup>161</sup> Pratt M (2007) *Imperial Eyes: Travel Writing and Transculturation*. Routledge; London & New York; see also Greenhough B (2011) 'Assembling an Island Laboratory' *Area* 43(2): 134-138; Hinchliffe S (2010) 'Where species meet' *Environment and Planning D: Society & Space* 28(1): 34-35

<sup>162</sup> Haraway D (2008) op cit.: 41.

<sup>163</sup> Hinchliffe S (2010) op cit.

<sup>164</sup> Hustak C and Myers N (2012) op cit.: 78.

<sup>165</sup> Hinchliffe S (2003) 'Inhabiting' – Landscapes and Natures' in Anderson K, Domosh M, Pile S and Thrift N (eds) *The Handbook of Cultural Geography* (Sage; London): 213 [orig. emphasis]

understand involvement as creative, non-filiative and generative of new possibility. The becomings of ospreys occur in 'blocks' with other entities. These are moments of alliance by which all involved – human or bird – potentially become something else. Finally, I take Haraway's situated attention to relational attachment as a way of grounding this Deleuzian theory, holding in tension contemporary relations with longer lineages of species-being. Haraway's notion of the companion species directs me to the ways in which certain spaces are marked and shaped by the responses of humans and ospreys to each other. Therefore, where more ecologically-oriented tales of species existence risk losing a grasp on 'particular bodies and of local and ephemeral differences', my involved approach to animal life proposes a means to expand the dimensions of the historical osprey figure within a lively biogeography.<sup>166</sup>

#### **4. Geographies of Osprey Involvements**

Osprey life is emergent amidst lived, material conditions; constituted within moments of (temporary) partnership and alliance as 'blocks of becoming' that propagate potential for new forms to arise. What interests me in this thesis is where and how species meet, and the new relations formed.<sup>167</sup> To that end, I attend to specific sites and stories of osprey-human involvement, developing arguments concerning the character, conditions and geographies of avian life at various points throughout the history of its conservation. I want to trace the geographical character of relations constituting particular dimensions of the osprey in a way that, following Haraway, acknowledges 'the located does not necessarily mean local, even while it must mean partial and situated, and that global means not general or universal but distributed and layered.'<sup>168</sup>

The site ontology developed by Sally Marston, Keith Woodward and John Paul Jones III stresses the real and possible connections conjoining humans, ospreys and other beings in 'situated practices'.<sup>169</sup> Theirs is a 'rigorous particularism': a guide for attending to human-animal spaces in a manner that refuses to 'cover over or

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<sup>166</sup> Hustak C and Myers N (2012) op cit.: 95.

<sup>167</sup> Greenhough B (2011) op cit.: 135.

<sup>168</sup> Haraway D (1997) *Modest\_Witness@Second\_Millennium.FemaleMan@\_Meets\_Oncomouse* <sup>TM</sup>; *Feminism and Technoscience*: 121.

<sup>169</sup> Woodward K *et al* (2010) op cit: 273.

predetermine – analytically or empirically – its contents.’<sup>170</sup> I want to explore how sites of osprey life are made across five stories of osprey-human involvement. I elaborate here on three registers of attention to involvement that are woven through the empirical chapters that follow, expanding my conceptual basis for each. These concerns are with involvements in terms of their materiality, bodily affects, and ethics.

## **Material Involvements**

A site ontology actively invites one to consider the composition of sites in terms of ‘the comings-together of elements’ and their role in action.<sup>171</sup> The first register of involvement that this thesis investigates, therefore, is that of materiality. To clarify, by materiality I mean: the physical matter of surroundings; the array of nonhuman entities that mediate action and perception; and a sensitivity towards how agency is distributed across a range of bodies, forms and mediums. This is materiality as an ‘interrogative mode of thinking’ geography, attentive to the lively field of forces and matter as much as the more obviously solid, mediating ‘stuff’ of human-animal meetings.<sup>172</sup> I encounter the objects, devices and surroundings through which osprey involvements unfold, but I also seek to bring the ‘vibrancy’ of non-organic matter to the fore in my account.<sup>173</sup>

I explore the assembled nature of these conditions, agencies and forces shaping the possibilities for species meetings. Assemblage, a rough translation of Deleuze and Guattari’s ‘*agencement*’, has been taken up in geography and elsewhere to denote an ontology of heterogeneous, constellated and contingent wholes-in-formation.<sup>174</sup> An assemblage is more than the sum of its parts; equally, parts are livelier than the constituents of a more finely tuned actor-network and exceed their capacities as

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<sup>170</sup> Marston S *et al* (2005) op cit.: 426.

<sup>171</sup> Woodward K *et al* (2010) op cit.: 275.

<sup>172</sup> Anderson B and Wylie J (2009) op cit.

<sup>173</sup> See Anderson B (2012) ‘Affect and biopower: towards a politics of life’ *Transactions of the Institute of British Geographers* 37(1): 28-43; (2014) *Encountering Affect: Capacities, Apparatuses, Conditions*; Bennett J (2010) op cit.

<sup>174</sup> See in particular Anderson B, Kearnes M, McFarlane C and Swanton D (2012) ‘On assemblages and geography’ *Dialogues in Human Geography* 2(2): 171-189; Anderson B and MacFarlane C (2011) op cit.; Marcus G and Saka E (2006) ‘Assemblage’ *Theory, Culture & Society* 23(2-3): 101-106.

they are expressed within an assemblage.<sup>175</sup> Considering the osprey project, I attend to how the protection of the ospreys requires gatherings of coordinated agencies, capable of acting in unexpected or surprising ways. Military technologies, incubators and pesticides are just a few of the entities that come into contact with birds to generate new forms of osprey life. These interrelations are contingent to the moment. Component parts, bodies, and agencies act partially, holding something back that might be released in a different instance of connection or form of relation. Thus, in assemblage thinking, actors always have more to give. They retain a potential to be otherwise to how they appear.<sup>176</sup>

Non-organic forms of agency play a role by disrupting, assisting or otherwise injecting unforeseen complexity onto the scene. In particular, there is attention to how certain materials act in concert with bodies to magnify certain capacities (see below) or dampen others. Different materials can be pervasive, uncertain and stubborn presences. Whilst they might change in form or influence, they never simply disappear.<sup>177</sup> Following Jane Bennett, agency is dispersed across assemblages of elements, cascading across the organic and inorganic world to trouble linear explanations of causality or action.<sup>178</sup> These considerations widen my scope for analysis and attention, recognising that in certain situations different forms of agencies have differential roles to play in the composition of what constitutes osprey life on Speyside in the twentieth century.

Whilst assemblage thinking can appear solely to celebrate the rhizomatic or unstable character of such conglomerations, under other circumstances constellations appear coherent, territorialising and even oppressively ordered. Stephen Legg sets up a useful continuum between assemblage and the Foucauldian term 'apparatus' that I draw on to discuss the assembled practices of conservation

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<sup>175</sup> Swanton D (2013) 'The steel plant as assemblage' *Geoforum* **44**: 282-291.

<sup>176</sup> DeLanda M (2006) *A New Philosophy of Society: Assemblage Theory and Social Complexity*.

<sup>177</sup> Gregson N, Watkins H and Calestani M (2010) 'Inextinguishable Fibres: Demolition and the Wital Materialisms of Asbestos' *Environment and Planning A* **42**(5): 1065-1083.

<sup>178</sup> See Bennett J (2005) 'The Agency of Assemblages and the North American Blackout' *Popular Culture* **17**(3): 445-465; Ingold T (2007) 'Materials against materiality' *Archaeological Dialogues* **14**(1): 1-16; Latour B (2005a) 'From realpolitik to dingpolitik or how to make things public' in Latour B and Weibel P (eds) *Making Things Public* (MIT University Press; Cambridge MA): 14-42.



governance that seek to secure and manage the conditions for osprey life.<sup>179</sup> I echo recent geographical scholarship regarding conservation in recognising that projects protect or foster certain kinds of animal, and that such work operates through purposeful and strategic assemblages.<sup>180</sup> Yet, it is also the case that the processes by which subjects are made or governed can also open new spaces for alternative formations or beings to inhabit the spaces created *between* imposed homogeneities.<sup>181</sup> Ospreys build new nests in more awkward positions after initial attempts prove futile, despite protections; they learn to nest on new structures like electricity pylons; chemical contaminants find a way into avian bodies, producing versions of osprey life incapable of reproduction. This thesis seeks to explore, in the first instance, the material conditions of the sites of osprey involvement, their historical composition, and their influence on the possible forms that bird life might take.

## **Affective Bodily Involvements**

In accounting for the material conditions or assemblages of osprey conservation I am not looking to provide a 'roll call' of the subjects or agents involved.<sup>182</sup> I want to flesh out acting bodies in their corporeality, to attend to more open processes of human and nonhuman subject-construction. Thus, the second register of involvement that this thesis explores is that of bodies and their 'capacity for affecting and being affected.'<sup>183</sup> I follow the work of Deleuze and Guattari, and of geographer Ben Anderson, to consider affects in relation to bodies and their 'passage from one experiential state [...] to another' with 'an augmentation or diminution in that body's capacity to act.'<sup>184</sup> In the context of geographical scholarship, the notion of affect is now frequently deployed to theorise the 'non-representational' aspects of existence: emotions, moods, atmospheres, and corporeal capacities. 'Affects' might variously comprise 'properties, competencies, modalities, energies, attunements, arrangements and intensities of differing texture,

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<sup>179</sup> Agamben G (2009) *What is an Apparatus? And Other Essays*; Foucault M and Gordon C (1980) op cit.: 194-228; Legg S (2011) 'Assemblage/apparatus: using Deleuze and Foucault' *Area* 43(2): 128-133.

<sup>180</sup> Srinivasan K (2014) op cit.

<sup>181</sup> See DeLanda M (2000) op cit.; Deleuze G (1992) 'What is a dispositif?' in Armstrong T (ed) *Foucault: philosopher* (Harvester Wheatsheaf; New York): 159-168.

<sup>182</sup> Woodward K *et al* (2010) op cit.: 275.

<sup>183</sup> Deleuze G (1988) *Spinoza: Practical Philosophy*: 123.

<sup>184</sup> Deleuze G and Guattari F (2013) op cit.: xv.

temporality, velocity and spatiality' acting on and through bodies.<sup>185</sup> Rather than engage more substantially with the term here – outwith the scope of my concern – it is in the coalescence of the concept around the body that I take a more practical, perhaps heavy-handed, approach to considering the affects of osprey conservation. I seek to demonstrate that what humans or ospreys 'may be able to do in any given situation' is contingent, relational, and not something to be 'exhaustively specified' in advance of inquiry.<sup>186</sup>

Within my site ontology I attend to the meetings of beings and their partial or temporary affinities, responses or moments of communicating.<sup>187</sup> Human and bird bodies can come to perceive differently; they can 'learn to be affected' by hitherto unnoticed phenomena.<sup>188</sup> There is recognition of the contingent ways in which all beings 'tune in' to different worlds in relation to their own bodies and the characteristics of that towards which they are oriented.<sup>189</sup> In this way, humans in a bird hide, or ospreys on the nest, come to register new sights, smells or forms of life, as new bodies are added or one faces in new directions.<sup>190</sup> In learning to be affected differently or by a means of re-orientation I explore how different versions of the human and osprey emerge in their involvement and prove either malleable or available to further kinds of relating.

Ospreys have an innate and an enacted nonhuman 'charisma,' being relatively easy to spot with a characteristic refrain and poise to their dwelling that is unlike other raptors.<sup>191</sup> As a result of their position within certain conservation set-ups, certain birds become more available for relations with humans than others – more amenable to what Elisabeth Brandin and Nick Bingham have similarly termed 'friendship'.<sup>192</sup> Different ways of humans approaching nature in scientific and

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<sup>185</sup> Lorimer H (2008) op cit.: 552.

<sup>186</sup> Anderson B (2014) op cit.: 10.

<sup>187</sup> Despret V (2013a) 'Responding bodies and partial affinities in human-animal worlds' *Theory, Culture & Society* 30(7-8): 51-76.

<sup>188</sup> Latour B (2004a) op cit.: 205.

<sup>189</sup> Lorimer J (2007) op cit.; von Uexküll J (2010) op cit.

<sup>190</sup> Ahmed S (2006) *Queer Phenomenology*: 29.

<sup>191</sup> Lorimer J (2007) op cit.

<sup>192</sup> Bingham N (2006) 'Bees, butterflies and bacteria: biotechnology and the politics of nonhuman friendship' *Environment and Planning A* 38(3): 483-498; Brandin E (2009) op cit.

knowledge-gathering practices perform different versions of it.<sup>193</sup> Via the work of Annmarie Mol, one can consider different ontologies of birdlife as ‘enacted’ through different material practices.<sup>194</sup> It is also the case that certain sites align animals more or less with our ‘somatic sensibilities’ of the world. That is, they enhance the ability to empathise with animal existence, deriving from our realisation of the shared experience that accrues simply by virtue of existing as bodies within common surroundings.<sup>195</sup> Human and ospreys dwelling on Speyside endure shared conditions. Humans working with these birds develop an affinity for their feathered associates. In this vein, concerning bodily affects, ‘the embodied practices of knowing are part of the story.’<sup>196</sup> Within the affective involvements of bodies, I attempt to explore how ospreys and humans, via the material architectures of conservation practice and perception, ‘allow each other to be differently intelligent’: to perceive and act differently.<sup>197</sup> In this context the experience of space is reconceptualised as a learned practice shared across species lines.

## **Ethical Involvements**

The final register of involvement woven through this thesis concerns ethics, and the question of what ‘ethical involvements’ might look like. A destabilising of the ‘animal’ and the ‘species’ forces us to consider ethics (as a moral praxis) in situated terms. What constitutes an ethical relationship between humans and nonhumans has a traceable and contingent geography.<sup>198</sup> Yet, as the imbricated involvements of DDT contamination, or the deadly alignment of migration routes and sporting estates during the nineteenth century, demonstrate, sites are messy, leaky and extend beyond that immediately apparent at hand.<sup>199</sup> As Kathryn Yusoff, amongst others, has argued, the affective forces of ecology are not only expressed through

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<sup>193</sup> Waterton C (2003) ‘Performing the classification of nature’ in Szerzynski B, Heim W and Waterton C (eds) *Nature Performed: Environment, Culture and Performance* (Blackwell; Oxford): 111-129.

<sup>194</sup> Mol A (1999) ‘Ontological politics: A word and some questions’ in Law J and Hassard J (eds) *Actor Network Theory and After* (Blackwell Publishers/The Sociological Review; Oxford & Malden MA): 74-89; (2002) *The body multiple: Ontology in medical practice*.

<sup>195</sup> Greenhough B and Roe E (2011) ‘Ethics, Space, and Somatic Sensibilities: Comparing Relationships between Scientific Researchers and Their Human and Animal Experimental Subjects’ *Environment and Planning D: Society & Space* **29**(1): 47-66.

<sup>196</sup> Despret V (2013a) op cit.: 69.

<sup>197</sup> Lestel D (2002) op cit.: 56.

<sup>198</sup> Jones O (2000) op cit.

<sup>199</sup> Marston S *et al* (2005) op cit.

individual bodies, but across the constitution of communities of beings. These are immersed, gathered and blocked alliances of becoming, generative of cultural and biological ways of living.<sup>200</sup> An attention to sites of involvement contributes to a relational 'site ethics', holding in tension the involved activity that makes a life with the biopolitical balancing of the costs and benefits of that making. My attention to ethical involvements is threefold and concerns such biopolitics, as well as both composition and politeness.

Firstly, to foster certain kinds of osprey life, in certain places, can mean denying other kinds of life or involvement elsewhere. There are entangled practices of 'violent care' underlying species protection as violence – which need not be bloody, lethal or obvious – is often a requirement for lives to flourish.<sup>201</sup> Sites that demonstrate the porosity of osprey bodies tie their existence to more dispersed or slow forms of violence.<sup>202</sup> Secondly, other projects, like rewilding, restoration, or habitat management, are collective and experimental endeavours of both biopolitics and *composition*. The question becomes how to democratise such practices within a widened political ecology that considers politics in less anthropocentric terms.<sup>203</sup> Within these open-ended and uncertain projects we should – as Latour writes – interrogate our involvements in terms of how well they actually work for those involved.<sup>204</sup> Osprey involvement is ethical when attempts are made to 'stay with the trouble' as certain activities fail or entanglements between human and bird cannot be easily undone.<sup>205</sup> Finally, and relatedly, I also ask what it means to be involved *politely* in the lives of ospreys. 'Politeness' might figure in how appropriate levels of distance and proximity are maintained, or in how human and animal communities learn to live together in ways that allow each to live reasonably free and unhindered

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<sup>200</sup> See Smith M (2013) 'Ecological Community, the Sense of the World, and Senseless Extinction' *Environmental Humanities* 2(1): 21-41; van Dooren T (2014) op cit.; Yusoff K (2012) 'Aesthetics of loss: biodiversity, banal violence and biotic subjects' *Transactions of the Institute of British Geographers* 37(4): 576-592.

<sup>201</sup> Braverman I (2015) op cit.; Chrulew M (2011) op cit.; van Dooren (2014) op cit.

<sup>202</sup> In particular I am drawing on the sentiments of Nixon R (2011) *Slow Violence and the Environmentalism of the Poor*. Harvard University Press: Cambridge (MA) and London.

<sup>203</sup> See Bennett J (2010) op cit.

<sup>204</sup> Latour B (2004c) 'Which protocol for the new collective experiments? (Translated by Gustav Roßler)' in Schmidgen H, Geimer P and Dierig S (eds) *Kultur im Experiment* (Berlin; Kadmos Verlag): 17-36.

<sup>205</sup> Haraway D (2010) op cit.: 53.

lives.<sup>206</sup> Equally of importance is the matter of researching and articulating the animal in both historical contexts and this thesis in a way that does not silence or prefigure another's capacities to act. This concern is, in many senses, more epistemological in nature, and I return to it over the following two sections.

## **5. Epistemology for Involved Animal History**

The overall historical focus of my analysis aligns this thesis with the challenging, experimental and speculative project of 'animal history'. Given the developments in animal geographies, and recent more-than-representational engagements with materials, bodies and ethics, in these final two sections I explore some of the linked epistemological concerns arising within historical animal studies and animal geographies. I propose how my approach of involvement seeks to reconcile these. I attend here to the first of two general criticisms concerning the project of 'animal history': how scholars conceive of an ontology of historical animal life, and the implications for epistemic frameworks. The practical challenges of researching and writing a history of animals are addressed in the section that follows.

### **The limits to animal history**

To frame consideration of 'animal history' I begin with the pessimistic sentiments expressed by Erica Fudge on the challenges of such a project.<sup>207</sup> Fudge invokes the provocation of feminist historian Joan Kelly-Gadol: 'Did women have a renaissance?' Kelly-Gadol's question problematises 'accepted schemes of periodisation' when the effects of a historical period defined in terms of its broad impacts on the inhabitants of society were, in reality, selectively felt.<sup>208</sup> As such, Kelly-Gadol argues that since many women did not incur the social emancipations of the Renaissance, writing a truly female history might mean rejecting a system of periodisation that implicitly prioritises masculine narratives of progress so as to better foreground women's experience. In considering how to write an osprey history, I draw on Fudge's development of this provocation. In the sentiments of an

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<sup>206</sup> In particular see Candea M (2010) "'I fell I love with Carlos the meerkat': Engagement and detachment in human-animal relations' *American Ethnologist* 37(2): 241-258; Smuts B (2001) 'Encounters with animal minds' *Journal of Consciousness Studies* 8(5-7): 293-309.

<sup>207</sup> Fudge E (2002a) op cit.

<sup>208</sup> Kelly-Gadol J (1977) 'Did Women have a Renaissance?' in Bridenthal R, Koonz C and Stuard S (eds) (1987) *Becoming Visible: Women in European History* (Houghton Mifflin; Boston): 176.

early animal geography project, framed as ‘thought experiment on the fringes,’ Fudge asks, ‘Did dogs have a Renaissance?’<sup>209</sup> Straining at the ontological and empirical limits of animal history, her answer is ‘No’. Neither did dogs ‘partake of the intellectual debates which define the period’ nor do they exhibit an awareness of such a schema of historical periodisation. Therefore, she concludes, a ‘wholly different’ epistemology of history is required.<sup>210</sup>

If we can never truly know an osprey’s experience of historical events or geographies, it appears – as Fudge initially argues – that the only historical project possible is one that tracks the changing representations of animals *by humans*. We can examine historical representations of the ospreys: a ‘pest species’ under the Tudor vermin acts or within regimes of highland sporting estate management; a symbol of nineteenth century environmental loss; a triumphant icon of organised bird conservation in the twentieth century. There is, however, little room to speculate on what it was like to *be* one, or to consider the generative potential of involvements with these birds. The work of early historical animal geography scholars appears to echo this claim. The animal appears as the foil against which notions of humanity are enacted or defined, or a screen onto which narratives about society and nature are projected. The animals in such scholarship reveal much about societal and attitudinal change, yet their inclusion as ‘political beings’ is investigated in largely metaphorical terms.<sup>211</sup>

Yet as Etienne Benson has countered, Fudge’s criticism rests upon a purified notion of the world that, in reality, cannot be neatly separated into human and ‘nonhuman’. This is a shared and involved world in which to write a human history is already, whether consciously or not, to write a history of animals.<sup>212</sup> Increasingly, scholars in historical geography demonstrate the means to write more-than-representational accounts in which the historicity of materials and nonhuman

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<sup>209</sup> Philo C (1995) op cit.: 657.

<sup>210</sup> Fudge E (2002a) op cit.: 6.

<sup>211</sup> See Buller H (2015) ‘Animal geographies II: Methods’ *Progress in Human Geography* 39(2): 375; Howell P (2015) *At Home and Astray: The Domestic Dog in Victorian Britain*: 180.

<sup>212</sup> Benson E (2011a) op cit.: 5.

beings are foregrounded.<sup>213</sup> Contemporary historical geography animates archival collections, in combination with the conceptual tools of performative and embodied practice, vital materialism, and affect, signalling the ways in which 'being creative with archives opens up a number of possibilities for geographers'.<sup>214</sup> In material, embodied and more-than-human histories there is the possibility of attending to human *and* animal experiences of place, favourite haunts and the practices that produce and sediment landscapes.<sup>215</sup> These visceral encounters – such as those between game-keepers, egg-collectors or watching conservationists and returning ospreys – are felt, lived and constitutive of the subjects involved, as well as occurring within an assemblage of devices.<sup>216</sup> There is an informed attention to the testimony of those humans working with animals in the past, and to the presence of animal bodies in the stories, documents and worlds contained in the archive, that 'takes seriously the embodied practices, landscapes and material histories of the humans and nonhumans involved in such closeness.'<sup>217</sup> As recent work by Elizabeth Johnston emphasises, human-animal encounters are both productive of and extend across nebulous histories and spaces.<sup>218</sup> I want to animate such historical geographies in my thesis through an attention to the sites of osprey-human involvements, as well as to their naturalcultural legacies.

Therefore, what is required is the will to write with a more material, embodied, affective and ethical sensibility about the historical relations between humans and birds. This, in turn, requires that the researcher 'take the risk of speculating: how did animals understand and experience what humans offered them or forced on them?'<sup>219</sup> Such speculation as the basis of an epistemology of historical animal life need not be without a firm basis in contemporary and historical writing on the

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<sup>213</sup> Such as the work of DeSilvey C (2007a) 'Salvage memory: constellating material histories on a hardscrabble homestead' *Cultural Geographies* **14**(3): 401-424.

<sup>214</sup> Mills S (2013) 'Cultural-Historical Geographies of the Archive: Fragments, Objects and Ghosts' *Geography Compass* **7**(10): 702.

<sup>215</sup> Lorimer H (2006) 'Herding memories of humans and animals' *Environment and Planning D: Society & Space* **24**(4): 497-518.

<sup>216</sup> Matless D (2000a) op cit.; Matless D *et al* (2005) op cit.

<sup>217</sup> Lorimer J and Whatmore S (2009) op cit.: 677; Midgely M (1988) 'Beasts, Brutes and Monsters' in Ingold T (ed) *What is an Animal?* (Routledge; London): 43.

<sup>218</sup> Johnson E (2015) 'Of Lobsters, Laboratories, and War: Animal Studies and the Temporality of More-Than-Human Encounters' *Environment and Planning D: Society & Space* **33**(2): 296-313.

<sup>219</sup> Despret V (2013b) 'From Secret Agents to Interagency' *History and Theory* **52**(4): 32.

biological, ecological and ethological capacities of the beings under consideration. As Manuel DeLanda's 'nonlinear history' demonstrates, one can take an attention to materiality and the conditions for life as far as to read a thousand years of human activity through a lens of evolutionary and microbial biology, producing a more rhizomatic and multi-species account of the past.<sup>220</sup> If human – or animal – nature is itself better understood, following Anna Tsing, as an interspecies relationship then surely all history is 'transspecies history'. It must necessarily involve both humans *and* animals in the telling, regardless of which constitutes the primary focus of analysis.<sup>221</sup> An involved attention emphasises the potential of a historical engagement with animals that attends to materiality, bodily affects and ethics. It uses the fact that all beings exist as a part of broader multi-species communities as an epistemological springboard into investigating shared conditions, environments and relations. A more osprey-centred history is possible, but an involved history is more desirable, attending to how birds' lives have played out with and alongside those of humans and other beings. To specify more clearly the epistemological tenets of an involved approach I develop the concerns of my historical attention through recourse to contemporary epistemological debates in animal geography concerning the animal subject(s), animal spatiality, and animal agency.

### **Collectives and Individuals; Populations and Species**

An epistemology of involvement requires that one engage an *involved subject*. As geographer Owain Jones argues, the majority of conceptual engagements with animals are with 'collectives': primarily, notions of species or population.<sup>222</sup> Not surprisingly, animal geographers and others challenge the notion of fixed species as the basic unit of evolution or a given natural kind, exploring the various ways in which such notions are constructed, assembled or performed through the broader apparatuses of conservation surveillance, population statistics, and scientific practice.<sup>223</sup> In terms of ethics, this kind of 'species thinking' is troubled by a focus upon the ethics of encounter, a more contingent and contextual reckoning of what

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<sup>220</sup> DeLanda M (2000) op cit.

<sup>221</sup> See the discussion of Nance S (2013) *Entertaining Elephants: Animal Agency and the Business of the American Circus*: 6-9.

<sup>222</sup> Jones O (2000) op cit.

<sup>223</sup> Biermann C and Mansfield B (2014) op cit.; Friedrichsen A (2016) 'Of wildcats and wild cats: Troubling species-based conservation in the Anthropocene' *Environment and Planning D: Society & Space* **34**(4): 689-705; Lorimer J (2006) op cit.; van Dooren T (2014) op cit.; Waterton C, Ellis R and Wynne B (2013) op cit.



kind of practice and relationships are deemed acceptable – or are owed – depending on the conditions under which species meet and continue to remain involved.<sup>224</sup> Some scholars have pushed for greater attention to the stories of individual animals, or animal ‘characters,’ as a way of recovering animal voices and emphasising nonhumans ethical worth.<sup>225</sup> Certainly in the story of the ospreys at Loch Garten and other visitor centres there are notable and more visible individuals or breeding pairs, tenanted sites for long periods and becoming firm visitor favourites within a more widely dispersed population of raptors. But within the context of the osprey’s history osprey life is neither adequately rendered by notions of individuals – which are, in addition, a rare presence in the archive – nor species. An over-emphasis on encounters with atomised osprey figures is unsatisfactory. An ethics based solely in the encounter (although this might take on different forms than merely ‘face-to-face’ meetings<sup>226</sup>) leaves one in a limited position to explore, comment upon, or challenge the broader state and economic apparatuses that produce and sustain conditions for life, death and suffering in different settings.<sup>227</sup>

I therefore approach the historical osprey subject in two ways. Firstly, I follow recent work in geography, animal studies and environmental humanities that has sought to expand ontologies of species to emphasises a more fluid notion of biology, culture and society as a series of relational communities. As Deleuze and Guattari and Haraway articulate, to become one is always to become-with others. Therefore an involved approach directs one to investigate the variegated composition of sites where the attachments between beings with implications for the nature of wider ecological assemblages and their future possibilities.<sup>228</sup> Such encounters must be situated within a particular environment or material surroundings.

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<sup>224</sup> Haraway D (2008) op cit.; Palmer C (2010) *Animal Ethics in Context*.

<sup>225</sup> Bear C (2011) ‘Being Angelica? Exploring individual animal geographies’ *Area* **43**(3): 297-304; Candea M (2010) op cit.; Garlick B (2015) ‘Not all dogs go to heaven, some go to Battersea: sharing suffering and the ‘Brown Dog affair’’ *Social and Cultural Geography* **16**(7): 798-820.

<sup>226</sup> Lorimer J (2010b) ‘Moving image methodologies for more-than-human geographies’ *Cultural Geographies* **17**(2): 237-258.

<sup>227</sup> Srinivasan K (2016) ‘Towards a political animal geography?’ *Political Geography* **50**: 76-78.

<sup>228</sup> Smith M (2013) op cit.

The second epistemological tactic is to approach the osprey via Haraway's rhetorical strategy of 'figuration'. Haraway's companion species is a 'figure': both a gathering *and* an individual; material *and* semiotic. Her writing is characterised by a pantheon of 'odd boundary creatures' – often 'literally monsters' – like the cyborg or the laboratory 'oncomouse'.<sup>229</sup> Such figures are avowedly anti-modern, resisting any consignment to either nature or culture.<sup>230</sup> Instead, they emphasise the specificity of hybridity. Figures are thus 'lures for feeling' that beckon curiosity.<sup>231</sup> To discuss figured 'companion species' – be they Haraway's dogs or, ospreys – retains space for a grounding in bodies, as well as a specific histories and geographies, alongside analysis of the broader conditions that make that figure's existence possible.

The osprey I describe is something of a cyborg: corporeally, ethologically and geographically shaped by human involvement. I see promise in the epistemological work that an 'osprey figure' can do. It holds in tension the generalisable characteristics and affects of a set of beings, whilst retaining space for a grounded injection of material and bodily specificity. The ospreys in this thesis *are* particular birds at particular times and places. The ospreys in this thesis are also a 'condensed image' of osprey experience, material conditions and speculation. They are paradoxically matters of fiction *and* lived experience.<sup>232</sup> In this way, the osprey I discuss – fleshed out with recourse to the literature on the species – is as much a diagnostic tool with which to sense the historical conditions for bird life and its constitution in Scotland.<sup>233</sup>

## **Animal geographies; animals' geographies**

A second facet of my involved epistemology is its overtly geographical concern. To return to Fudge's proposition, we *can* investigate the kinds of animal geographies that are produced at particular historical moments; be they within the milieu of Renaissance Italy, postwar Speyside or otherwise. Within a social constructionist

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<sup>229</sup> Haraway D (1991) op cit.: 2.

<sup>230</sup> Haraway D (1997) op cit.: 119-120.

<sup>231</sup> Sehgal M (2014) 'Diffractive Propositions: Reading Alfred North Whitehead with Donna Haraway and Karen Barad' *Parallax* 20(3) 200 [en. 36].

<sup>232</sup> Haraway D (2008) op cit.: 149-150.

<sup>233</sup> Collard R-C (2012a) 'Cougar figures, gender, and the performances of predation' *Gender, Place and Culture* 19(4): 522.

and performative framework one can explore how animals are constructed as 'belonging in' certain spaces, seen to be transgressive or abject presences in others, and the kinds of practices that serve to exclude, permit or mediate the form that presence might take.<sup>234</sup> Certainly a great deal of historical work in geography, as noted above, has attended to how animals have been in various ways 'placed' by humans and their interests. Accordingly, I describe how conservation practices delimit or affect the specificities of ospreys' spatial existence. But an involved approach to animal life demands an involved approach to geography, recognising the agency of animals in the fabric and storying of worlds.<sup>235</sup>

Animals are, as Henry Buller puts it, 'geographers too': they make sense of the world in spatial terms, reorganise and respond to their surroundings, and demonstrate the significance of place within their lived relations.<sup>236</sup> Yet, despite substantial activity in the subfield, it can be argued that geography has 'barely acknowledged the existence of animals', overemphasising the human practices that acting upon or subjectify them in lieu of attention to their own beastly places.<sup>237</sup> Tim Hodgetts and Jamie Lorimer have argued this imbalance is methodological. They suggest how a variety of scientific techniques – radio tracking, camera surveillance and gene sequencing to name a few – might provide the means to trace or track contemporary animal's geographies.<sup>238</sup> Similarly, Benson promotes a reading of natural science literature as a means of extending the archive, something I do here. Yet whilst some such records exist for certain species – there is a long term record of logged behaviour at Loch Garten, for example – encountering historical animal geographies remains difficult. It is equally important to acknowledge that spaces are not produced alone but between a variety of agents and their connections. In the majority of situations it feels contrived and bizarre to speak of separate – or separable – animal's geographies when biogeographical relations always figure as more involved and heterogeneous.<sup>239</sup>

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<sup>234</sup> Philo C and Wilbert C (2000) op cit.: 5; Whatmore S and Thorne L (1998) op cit.

<sup>235</sup> van Dooren T and Rose DB (2016) 'Lively Ethology: Storying Animist Worlds' *Environmental Humanities* 8(1): 85.

<sup>236</sup> Buller H (2015) op cit.: 380.

<sup>237</sup> Urbanik J (2012) op cit.: 185.

<sup>238</sup> Hodgetts T and Lorimer J (2014) op cit.

<sup>239</sup> See discussion in Lorimer J (2010a) op cit.

Within an involved approach space is relational. It is constituted in its material, bodily and affective character in the involvement of beings. Demarcations between bodies, actors, and spaces do not precede the relating, but are borne of it.<sup>240</sup> There certainly needs to be a less asymmetrical focus on merely the 'animal spaces' that humans create. I do seek to incorporate and attend to the beastly places of osprey life in my analysis: migration routes, nesting haunts, feeding grounds and the landscapes that 'charm' across species lines.<sup>241</sup> But I also look to question the conditions under which animals dwell, and the possibilities that these afford for different kinds of presence. I explore these conditions as material – the physical space or habitats that might accommodate ospreys – and affective – with birds as open and with the potential for dwelling differently. I ask how human and osprey, or osprey and other nonhuman bodies, come to exist in proximity or at distance; how this spatiality is composed in the meeting and overlaying of territoriality; what kinds of life are permitted where; and how instances of transgression are dealt with.

### **Symmetrical agency; beastly agency**

An involved approach encounters the animal and its agency in terms of the broader relational considerations of contemporary animal geography.<sup>242</sup> This is to be less concerned with a causal than an affective interpretation of action in which agents are made and remade in the play of relating, rather than existing prior to such meetings. Agency appears as the capacity to affect and be affected.<sup>243</sup> I explore the osprey as an active presence within Speyside history. What impact ospreys have had – indeed, have – upon the ways in which a broader ecological and technical assemblage of their protection and display has come to exist, or in the character of institutional and social life on Speyside, is not a foregone conclusion. Following the sentiments of Tim Mitchell, the agency of the ospreys in my account is articulated as an 'open question' rather than 'an answer that is known in advance'.<sup>244</sup> Exploring the dimensions of osprey agency on Speyside is a fulsome part of my investigation.

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<sup>240</sup> See Massey D (2005) op cit.

<sup>241</sup> For a discussion of the concept of the dichotomy of 'animal spaces/beastly places' see Philo C and Wilbert C (2000) op cit.; for criticism of an epistemological asymmetry in animal geographies see Hodgetts T and Lorimer J (2014) op cit; Lorimer H (2006) op cit.: 501.

<sup>242</sup> Buller H (2014) op cit.: 309.

<sup>243</sup> Barad K (2007) op cit.; Bennett J (2005) op cit.; Despret V (2013b) op cit.

<sup>244</sup> Mitchell T (2002) *Rule of Experts: Egypt, Techno-politics, Modernity*: 53.

The agency prevalent in the early work of science scholars such as Michel Callon, Bruno Latour and John Law can prove useful for crafting an epistemology to take stock of involvements between a wide variety of ‘actants’. Their writing describes mediations, transmissions and circulations that comprise humans, birds and more alien beings such as microbes or scallops.<sup>245</sup> Where the insights of actor network theory have been deployed in the investigation of human-animal worlds, nonhumans as actors in networks of varying extent are traced with regards to conservation, garden space, urban wild things or microbial life.<sup>246</sup> Throughout my work, I have remained mindful of Latour’s question: ‘When we act, who else is acting?’<sup>247</sup> Where I depart from actor-network theory is in my discomfort with a sense of agency as a binary ‘on/off’ distinction between networks of mediators – who change or affect a difference in forces – and intermediaries – who cleanly transmit force between actors without change. Encounters with ‘hybrid geographies’ might displace notions of an autonomous human subject, but they can also fail to render animals as anything beyond mere ‘shadowy presences’ that lack a presence ‘in detail, up close, face-to-face.’<sup>248</sup>

Crucially, where the interests of animal geography necessitate advocating for a more equitable treatment of agency in the resulting account, this does not equate to an agential ‘flattening’. As Jane Bennett writes, the recognition of distributed agency does not mean all expressions of agency are automatically to be considered as the same or equal.<sup>249</sup> My framework takes this approach to agency in its epistemology, following Ingold’s call to attend to movements *through* the world. The air for the osprey or the tree in which it builds a nest is not a node in a network but the very medium that affords the possibility for involvement in an environment.<sup>250</sup> This is a sense of agency more attuned to the materiality and media of association. It prevents one from homogenising the world’s vast agential diversity under the blanket of the ‘nonhuman’. The promise of a dwelt animal geography is to retain in

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<sup>245</sup> Callon M (1984) op cit.; Latour B (1988) op cit.

<sup>246</sup> Hinchliffe S *et al* (2005) op cit.; Hird M (2010b) op cit.; Hitchings R (2003) ‘People, plants and performance: On actor network theory and the material pleasures of the private garden’ *Social & Cultural Geography* 4(1): 99-114; Whatmore S and Thorne L (2000) op cit.;

<sup>247</sup> Latour B (2005b) *Reassembling the Social: An Introduction to Actor-Network Theory*: 43.

<sup>248</sup> Philo C (2005) op cit.: 826.

<sup>249</sup> Bennett J (2010) op cit.: 94-98.

<sup>250</sup> See in particular Ingold T (2008) op cit.

animals a capacity for ‘beastliness’ – of animals *as animals* – rather than networked ‘actants’.<sup>251</sup> As David Hulka argues, we need to reject the ‘residual’ humanism of hybridity by cultivating an appreciation that ‘a ‘nonhuman’ is not a ‘nonhuman’ is not a ‘nonhuman’” and that hybridity – as the mixing of kin and kind – occurs amidst – indeed, is driving of – the production of multiple natures.<sup>252</sup> What is required is an informed epistemology of osprey life that does not foreclose on the possibility that they might act in surprising ways.

As I signalled in the previous section, an involved approach must be polite ‘in the ethical, political and epistemological senses of the word.’<sup>253</sup> Vinciane Despret identifies a ‘virtue of politeness’ as the basis for a more ‘political ethology’.<sup>254</sup> Her provocation considers how scientists, conservationists and social science researchers can make the animal more or less articulate, offering increased opportunities for the expression of animal ‘opinions’ in their work: expressions of agency that might be otherwise excluded, ignored or closed down by a fixed experimental apparatus, or a research praxis proceeding from a closed and incontestable narrative of ecology. Within my own epistemology I have sought to approach osprey nature in a cosmopolitical sense: cautious and open, alert to surprise, subversion and contradiction.<sup>255</sup> I have tried to attend to these birds *as birds*; to be more interested in asking what they are (or were) possible of doing than checking rigorously against list of predefined and accepted behaviours.<sup>256</sup> Sometimes this means granting the birds ‘almost-human courtesies’: it means recognising that under certain conditions these birds are, in some ways, not so different to us.<sup>257</sup> This is not a ‘gross anthropocentrism’ but a critically inflected, light-touch, more positive anthropomorphism that celebrates rather than ignores ‘a whole world of resonances and resemblances’ between humans and other animals.<sup>258</sup> I have attempted to read human-osprey encounters through insights from ethological and ornithological

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<sup>251</sup> Johnston C (2008) op cit.: 637-639.

<sup>252</sup> Hulka D (2009) ‘The Residual Humanism of Hybridity: Retaining a Sense of the Earth’ *Transactions of the Institute of British Geographers* 34(3): 378-393.

<sup>253</sup> Despret V (2014) op cit.: 35.

<sup>254</sup> Despret V (2005) op cit.: 368.

<sup>255</sup> Hinchliffe S (2008) op cit.; Latour B (2004b) op cit.; Stengers I (2005) op cit.

<sup>256</sup> Lestel D *et al* (2012) op cit.

<sup>257</sup> Philo C and Wilbert C (2000) op cit.: 19.

<sup>258</sup> Bennett J (2010) op cit.: 98.

literature to make these subjects livelier, as other scholars have done.<sup>259</sup> Therefore, in involved epistemology of animal agency I am drawn once again to the sentiments of Haraway, who writes:

‘To do biology with any kind of fidelity, the practitioner *must* tell a story, *must* get the facts, and *must* have the heart to stay hungry for the truth and to abandon a favourite story, a favourite fact, shown to be off the mark. The practitioner must also have the heart to stay with a story through thick and thin, to inherit its discordant resonances, to live its contradictions, when that story gets at a truth about life that matters.’<sup>260</sup>

To summarise, I have highlighted some of the epistemological debates that an involved approach might engage. These points of tension emphasise, as both Hilda Kean and Dorothee Brantz note, that the project of animal history requires one to ask: what kinds of histories do we seek to write, and what counts as ‘enough’?<sup>261</sup> Considering the onto-epistemological questions of animal history – phrased by Erica Fudge in terms of the ‘dog’s renaissance’ – points animal geographers towards existing tensions within our own sub-discipline, and the limitations of approaches that either focus solely on the effects of human actions upon animals or the behaviours of animals apart from humans. An involved approach directs epistemological concerns through the messy middle: towards the composition of involved communities with a more speculative figuration of animal life; the material conditions for life and subject formation: and the conceptualising of agential capacities as ultimately a matter for empirical investigation. Different sites reveal different dimensions of osprey (and human) subjectivity in a way that presents a more complex, thicker and multidimensional osprey in relation. In the final section I turn to the more specific methodological strategy of this thesis when gathering, comprehending and writing about ospreys on Speyside from a range of source materials.

## **6. Working through the ‘animal archive’**

I now offer a brief account of this thesis’ methodological practice. A primary difficulty for historical animal studies is often the paucity of historical traces describing animal experience, or even recording animal life, since *neither* living nor

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<sup>259</sup> See in particular Lorimer J and Whatmore S (2009) op cit.: 676; van Dooren T (2014) op cit.

<sup>260</sup> Haraway D (2004) op cit.: 19.

<sup>261</sup> Brantz D (2010) op cit.; Kean H (2012) op cit.: s68.

dead animals can ‘answer questionnaires’. The ‘evidence’ available to the historical animal detective can seem even more scant than usual.<sup>262</sup> Fortunately, the osprey project and the life of ospreys on the nest, is reasonably well documented on Speyside. Following Etienne Benson, this thesis has sought to encounter the osprey in history through the ‘animal archive’: the collection of ‘non-innocent’ sources concerning animal life that offer the possibility of being read against the grain of their original purpose to craft an account.<sup>263</sup> I begin with a brief exploration of the notion of the animal archive before turning to my particular research methods.

### **Looking for ospreys in the animal archive**

The animal archive is less a place than a haunting presence of the more-than-human, and an epistemological sensibility regarding the authorship of documents. Working in the animal archive requires an expanded notion of authorship: a feat of relational ‘intellectual judo’ that recognises that texts about animals constitute not just something ‘done to’ or ‘about’ animals. Rather, their production comprises an element of ‘collaboration or co-authorship – a collection of traces of the animal who writes through the human as well as of the human who writes about the animal.’<sup>264</sup> Agency in whatever guise always leaves grooves and marks on surfaces of the world that can be recovered if one looks hard enough.<sup>265</sup> As subaltern scholar Gayatri Spivak writes of her attempts to recover indigenous voices within colonial historical records, reading against the grain is made possible by those ‘misfits in the text that signal the way’ to alternative interpretations.<sup>266</sup> In the context of animal history, reading against the grain requires a certain amount of tuning in to the characteristics and conditions of past animal life, approaching the animal archive with an understanding that traces also abound in a world beyond the textual: the nesting trees and territories of ospreys scarred with defences and barbed wire, their legs ringed with coloured bands.<sup>267</sup>

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<sup>262</sup> Baker A (1997) ‘The dead don’t answer questionnaires: researching and writing historical geography’ *Journal of Geography in Higher Education* **21**: 232-234.

<sup>263</sup> Benson E (2011a) op cit.: 9-11.

<sup>264</sup> Benson E (2011a) op cit.: 5.

<sup>265</sup> Bennett J (2005) op cit.: 457.

<sup>266</sup> Spivak G (1985) ‘Subaltern studies: Deconstructing historiography’ in Landry D and MacLean G (1996) (eds) *The Spivak reader* (Routledge; London & New York): 221.

<sup>267</sup> Lorimer H (2010b) ‘Caught in the Nick of Time: Archives and Fieldwork’ in DeLyser D, Herbert S, Aitken S, Crang M and McDowell L (eds) *The Sage Handbook of Qualitative Geographies* (Sage; London): 248-273.



Historical geographers have explored strategies for ‘animating’ archival sources as more-than-representational, performative and enacting of subjectivities, conservation strategies and geographies.<sup>268</sup> Interpretation concerns not just the work of the original human author and their active involvements with animal life but also that of the scholar, now, who approaches these documents with a cultivated understanding of animal – in my case osprey – life. Building from such considerations, the animal archive quickly expands around the osprey. For those wishing to write about the historicity of animals’ worlds, ‘substantial signs of life abound’ and the rhythms and routes of lives are etched into the earth as they are repeated.<sup>269</sup> Particularly in the context of conservation practice and the documentary traces that remain, a great deal are ‘about animals’, or produced with the explicit intention of intervening in their worlds. Explicitly osprey traces exist throughout the archive of Operation Osprey. Something remains of the decades of sitting, recording these birds in the field, or of the ways in which differently abstracted birds have circulated through databases, in relation to different spatial formations of wild life.<sup>270</sup> With the incidence of ringing and (though not discussed in this thesis) satellite tagging of ospreys, the birds’ are the active ‘authors’ of accounts of their migration.<sup>271</sup> Some such sources exist within the holdings of the RSPB. In addition, there exist the moving and still image sources of animal life, and the more visceral ‘narratives of affiliation’ that document the relations of ospreys with sportsmen, egg-collectors, conservationists and enthusiastic publics throughout the nineteenth and twentieth centuries that can be explored.<sup>272</sup> I have read widely of both historical and contemporary literature regarding osprey ecology, ethology and breeding biology in order to be able to attend to the birds and their activities as they appear in the animal archive.

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<sup>268</sup> Davies G and Dwyer C (2010) ‘Qualitative Methods III: animating archives, artful interventions and online environments’ *Progress in Human Geography* **34**(1): 88-97; DeSilvey C (2007b) ‘Practical remembrance: material and method in a recycled archive’ in Gagen E, Lorimer H and Vasudevan A (eds) *Practicing the Archive: Reflections on Method and Practice in Historical Geography*. Historical Geography Research Series **40**: 37-46.

<sup>269</sup> Lorimer H (2010a) op cit.: 63.

<sup>270</sup> Whatmore S and Thorne L (2000) op cit.

<sup>271</sup> Benson E (2010) *Wired Wilderness: Technologies of Tracking and the Making of Modern Wildlife*. The Johns Hopkins University Press; Baltimore.

<sup>272</sup> Lorimer H (2010a) op cit.: 65.

The animal archive is therefore less a mass of unseen documents than it is a proposal for gathering and (re)reading them with an attention to the conditions for, and presence of, animal life contained therein.<sup>273</sup> In terms of their 'non-innocence', I have tried to remain aware of the performative nature of these documents, many of which were intended to 'do' something to the osprey: protect it, govern it or, in some cases, incite violence against it.<sup>274</sup> Reading against the grain or around moments of rupture in a project or scheme reveals something of who is involved in the action amidst the 'building sites' of social relations.<sup>275</sup> The empirical chapters that follow seek to reconstitute osprey-human geographies of the past, and to map certain threads through the present day to possible futures. I have engaged in a methodological strategy that has been often messy, slow, uncertain and circuitous in the way that social research when approaching complexity inevitably is.<sup>276</sup> This reflects of the fragmented, found, distributed and often un-catalogued nature of the sources comprising my animal archive: gathered, recombinant and divinatory in character. I describe in more detail this gathering of data below.

## **Gathering**

In the course of my archival research I visited and accessed documents held within around six collections of textual sources, images, objects and other forms of artefact. A prolonged act of excavation, survey and exploration: by way of reading, note-taking, photocopying, scanning and digital photography I amassed a trove of documents through such processes of 're-collection' from which to work.<sup>277</sup> From these, and a variety of published secondary source materials, I have constructed a series of narrative engagements around different sites within the history of Scottish osprey re-colonisation. I have done my best to bridge the cracks of a collection of fragments, partial and incomplete.<sup>278</sup>

The data collection strategy for this thesis was twofold. The primary method was the gathering and reading of archival and published source materials documenting

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<sup>273</sup> Fudge E (2013) 'Milking Other Men's Beasts' *History and Theory* **52**(4): 17.

<sup>274</sup> Benson E (2011a) op cit.; see also a similar discussion of working in the 'Colonial Archive' in Duncan J (1999) 'Complicity and Resistance in the Colonial Archive: Some Issues of Method and Theory in Historical Geography' *Historical Geography* **27**: 119-128.

<sup>275</sup> Latour B (2005b) op cit.: 88-89.

<sup>276</sup> Law J (2004) op cit.

<sup>277</sup> Lorimer H (2010b) op cit.

<sup>278</sup> Mills S (2013) op cit.: 703.

the broad activities of monitoring, protecting and conserving osprey life in Scotland and the contextual history of ornithology and bird protection in Britain, primarily during the second half of the twentieth century. Trailing threads extend back as far as the thirteenth century and right up to the present day. Archival sources have taken a variety of forms including (but not restricted to): published contemporary nineteenth and twentieth century narrative accounts; natural science accounts concerning the osprey; correspondence between those involved in osprey protection; personal diaries; financial accounts; committee and board minutes of the RSPB and other institutions, as well as internal memos; annual, monthly and field reports; three decades-worth of osprey behavioural logs compiled by volunteers in the forward hide at Loch Garten between 1957 and 1987; project plans and instructions; site maps; and diagrammatic figures. I also draw on photographs, films and sound recordings, embracing the expanded, material and performative means by which history can be re-animated.<sup>279</sup>

This gathering has been undertaken, principally, at the offices and within the collections of the RSPB in Edinburgh, their headquarters at The Lodge in Sandy, and their reserve offices at Forest Lodge, Abernethy; the library of the Scottish Ornithologists' Club (SOC) at Waterston House, Aberlady; the National Museums Scotland research library; and the National Library of Scotland. eBay was used to track down postcards, hard-to-find published works and photographs, inspired by the creative efforts of historical geographers to search out material online.<sup>280</sup> Finally, I drew from a disparate 'personal archive' of diaries, maps, photographs and other materials that belong to individuals from Britain's osprey story in Britain. Such material allows a more intimate 'recovery project' regarding the osprey story as lived and experienced by those who dwelt with these birds.<sup>281</sup>

Secondly, as a source of supplementary material, a means to enliven particular narratives, and in an attempt to seek coherence within a nebulous mass of archival documents, I carried out a limited number of field and site visits and a selection of

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<sup>279</sup> Gagen E, Lorimer H and Vasudevan A (2007) 'Introductory Remarks' in Gagen E, Lorimer H and Vasudevan A (eds) *Practising the Archive: Reflections on Method and Practice in Historical Geography*. Historical Geography Research Series **40**: 1-8.

<sup>280</sup> See in particular Lorimer H (2007) op cit.

<sup>281</sup> Lorimer H (2003) op cit.: 199.

oral history interviews. These interviews with around sixteen former, affiliate and current RSPB members of staff (as well as some independent ornithologists) who have worked in osprey conservation varied from between twenty minutes to three hours in duration. They were interviews in the sense of being ‘conversations with a purpose’ and proceeded in the form of a life-history narration, centred on the subjects’ own involvements with ospreys or the RSPB. The interviews provided a nuanced sense of the project.<sup>282</sup> The chance to discuss particular events, to hear anecdotes about time in the hide, and to be in the field, offered a means to ‘shrink the spatial and temporal distance’ between my position as a scholar and the lived, embodied and material nature of these individuals’ involved, more-than-human pasts.<sup>283</sup> There emerged intriguing moments for pause and reflection on my own ideas about the project as informants delivered varied ‘portraits of shared existence’ with birds.<sup>284</sup> Much of what was produced in the way of ‘data’ is not directly included here. Instead, these discussions helped to (re)direct me towards the contents of a gathered archive. By foregrounding certain aspects, stories or moments in my attention – and allowing others to slip into the background – such anecdotes and stories offered a line or vector along which to orient myself towards my notes, as well as hinting at the existence of material still to find.<sup>285</sup>

Through time spent at the RSPB osprey centre at Loch Garten, Forest Lodge at Abernethy and in the field with practicing conservationists I engaged in a set of almost-ethnographic encounters alongside some of those from whom I was eager to obtain insights about the project’s history. Days out, the opportunity to talk *in situ* and the chance to witness practices first-hand stimulated new lines of thought while energising individuals to recall further stories or past encounters.<sup>286</sup> In addition, having spent nearly two years intermittently reading through the logged behaviour of ospreys at Loch Garten I decided, during the phase of writing, to volunteer for a week at Loch Garten. Less a research visit, this brief residency was an ethical pilgrimage that reflected both a desire to experience some of what I was writing

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<sup>282</sup> Riley M and Harvey D (2007) ‘Oral histories, farm practice and uncovering meaning in the countryside’ *Social & Cultural Geography* 8(3): 405.

<sup>283</sup> See Lorimer J and Whatmore S (2009) *op cit.*: 676.

<sup>284</sup> Buller H (2015) *op cit.*: 378.

<sup>285</sup> Ahmed S (2006) *op cit.*: 31.

<sup>286</sup> Riley M and Harvey D (2007) *op cit.*: 394-6.

about and to give something back to the RSPB. A few reflections from this excursion are incorporated into Chapter 5.

## **Comprehending**

The amount of empirical material that was amassed through these means of collection was great, but also hard to comprehend or arrange. I soon discovered first-hand that ‘crude collection is no research method’.<sup>287</sup> My working onto-epistemology of involved life was one of osprey existence as rhizomatic, assembled, complex. It was unyielding to neat narrative arrangement. In exploring this material, archival documents were summarised and tabulated into a spreadsheet before being coded in accordance with certain conceptual or empirical themes, alongside aspects such as the date or a location. This osprey archive was, essentially, a composite of records reflecting multiple and overlapping forms of contact between humans, birds and geography.<sup>288</sup> Following the interviews, I had certain things to look out for, certain gaps to fill, and certain trails to follow. Some sites of involvement that I came to address – like that of DDT and the failure of a second osprey pair on Speyside (Chapter 4) – were unknown, little documented and (re)discovered in the reading and connecting of documents. Other arcs – the protection of the nest or the logging of behaviour – had been previously written of and were better documented, making the task of their telling more concerned with drawing out specific instances where material conditions, bodily practices and ethical concerns came to the fore.

In making sense of material, analysis congealed around the five sites presented over the following chapters. Each site was its own assemblage, with a magnetism that drew in particular documents, actors or pieces of information by virtue that they helped to either increase the number of actors and enhanced the description, or made those already present a little more lively.<sup>289</sup> In each case, due to the limitations of what a thesis can achieve, I had to ‘cut the network’ and signal the fact that these relationships continued to unfold spatially and temporally beyond where my account ends. In many areas, the source material has demarcated the scope of

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<sup>287</sup> Lorimer H (2010b) op cit.: 260.

<sup>288</sup> Ahmed S (2003) *The Cultural Politics of Emotion*: 14.

<sup>289</sup> Latour B (2005b) op cit.: 136-138

analysis.<sup>290</sup> The bulk of RSPB sources spanned between the birds' first return in the mid-fifties until around the purchase of the Loch Garten reserve in 1975. Thereafter documentation was sparse and official minutes subject to public embargo from the mid-eighties onward. The osprey logbooks stretched until 1991, albeit with some years unavailable. I decided to end my account of logging in 1987 since the records for 1988 to 1990 were missing. These have since been located by the Society.<sup>291</sup> Additionally, some narratives, particularly Chapter 6's account of osprey nest building, are very much of the present. Due to the limited amount of documentary evidence held by the RSPB these narratives draw more heavily upon alternative archival collections (such as the SOC archive) as well as deploying insights gleaned from interviews and field visits. Therefore, the temporality of these site accounts varies in accordance with the source materials. They are intended to represent ongoing moments of involved formation in the course of human-osprey relations rather than a closed or definitive history of osprey conservation.

## **Telling**

The question of how to talk about animals in history is one that I have addressed throughout this chapter. My approach to historical animal geography necessitates a grounding in the empirical material; being informed in one's understanding of animal life; and a confidence to speculate on the affects of the former with either reference to or departure from the latter. In the terms of Deleuze and Guattari, '[w]e think and write for the animals themselves. We become animal so that the animal also becomes something else.'<sup>292</sup> I have tried to write through the empirical material a sense of how places and times might have been experienced by the birds, and to tap into a creaturely sensibility of what constituted osprey life in the past. The ospreys of the past cannot write their history – at least not in a form that we can understand – and therefore I have engaged in my own small moments of 'becoming-osprey' in an attempt to do it for them.

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<sup>290</sup> Strathern M (1996) 'Cutting the network' *Journal of the Royal Anthropological Institute* 2(3): 517-535

<sup>291</sup> I worked primarily from microfiches for the logbooks between 1957-1980 held by the RSPB at Forest Lodge. Several volumes from the 1970s and those covering the 1980s were held in hard copy at The Lodge and were actually discovered during the period of my research. I have since heard (as of October 2015) that the missing volumes, and those since 1991, are also now held at Forest Lodge.

<sup>292</sup> Deleuze G and Guattari F (1994) *What is Philosophy?*: 109.

The sites of osprey involvement that I write through emerge within particular stories about particular events or attempts to impose order, secure against some threat, or promote certain forms of osprey life in certain circumstances. The stories that I have told are a few amongst many. I do not pretend that they are not active contortions of the material to hand, foregrounding the osprey as much as possible whilst other aspects are pushed into the background. I have sought only to include agents in each story that, 'do something' in the conjuration of relations or site.<sup>293</sup> These are 'small stories' in the sense that they are situated 'constellations' of archival material and experience that provide an entry point to the 'working out' of a particular conceptual idea or dimension of osprey life.<sup>294</sup> I have chosen stories concerned with the affecting of the material and bodily conditions for osprey existence, taking materiality – a concern with the dispersion of agencies and the media, surfaces and substances which make up the world – as both an interrogative mode of writing and theme of analysis in its own right.<sup>295</sup> I hope, therefore, that lively animals and humans, situated in real geographies with a palpable, multidimensional sense of agency and being, populate the resulting thesis.

There are, of course, questions about how to gather, interpret and write ethically at the heart of any research project. Oral history encounters with older individuals raise concerns regarding memory, representation and power relations that require careful navigation in the doing and the reporting.<sup>296</sup> I have striven to make sure all informants were fully informed of the aims and intentions of the thesis, as well as the nature of their individual contribution. I have given individuals the option to review empirical sections that make use of their insights. Appropriate consent and permission to include names has been obtained from all informants.

Working in archives also brings ethical issues to bear on the researcher. Permission has been sought to access and collect information for all archival documentary sources. In working with archival material from oral history subjects, I have been

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<sup>293</sup> Latour B (2005b) op cit.: 128.

<sup>294</sup> Lorimer H (2003) op cit.: 214.

<sup>295</sup> Anderson B and Wylie J (2009) op cit.: 323.

<sup>296</sup> Andrews G, Kearns R, Kontos R and Wilson V (2006) 'Their finest hour': older people, oral histories, and the historical geography of social life' *Social & Cultural Geography* 7(2): 153-177.

mindful of the fact that I am drawing from stories, accounts and narratives that might be both personal and private. I have never asked respondents for access to private materials and have relied on such personal archival documents to be offered. Where these sources are used in the telling of the osprey's history, this is done so with both prudence and gratitude for the permission to do so. There also remains some active politics to the past of osprey protection.<sup>297</sup> Where I have been asked not to include specific names, locations or contemporary protection methods (as they pertain to past legal cases, on-going investigations or actively protected osprey nest sites) I have done so. All images, quotations, extracts and reproductions of documents have been fully attributed, and a list of archival sources can be found in full in both the footnotes and bibliography.

## 7. Concluding summary

From synthesising these literatures, I propose the conceptual term of involvement, as an ontological and epistemological framing of osprey life for historical investigation. In its plainest terms, my approach to historical animal geography is a working through of the concerns of a materialised, embodied and affective 'more-than-human' sensibility. Involvement sees the subject as an 'on-going co-fabrication' with lively agency distributed across and emergent from a 'dappled world' of multiple natures, relations and entities.<sup>298</sup>

I have drawn upon the work of three vitalist philosophers – supplemented by the insights of many other authors within the nebulous field of more-than-human scholarship – to craft an ontological attention to osprey life as *involved*. This is an attention to osprey life as dwelt and immersed in the world; a part and a result of contingent 'blocks of becoming' that generate new possibilities for osprey difference; and as shaped by attachments continuously formed with other beings (particularly humans) both past and present. This is a site ontology emphasising particular trajectories of becoming in their specific spatio-temporal character as open to investigation in terms of their material, affective and ethical dimensions.

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<sup>297</sup> Moore F (2010) 'Tales from the archive: methodological and ethical issues in historical geography research' *Area* **42**(3): 262-270.

<sup>298</sup> Whatmore S (2006) op cit.: 603.



This refrain of materiality, bodily affects, and ethics underlies the explorations of the different sites over the chapters to come.

I have also highlighted the epistemic outlook of an involved approach. Animals are known less as individuals or 'species' and more in terms of the communities that they embody and inhabit. The ospreys that I present in this thesis are 'cobbled together figures' in both the ontological and epistemological sense; both assembled by me from archival fragments and emergent as a form of life within the 'flight way' their species being.<sup>299</sup> Both ontologically and epistemologically, an account of atomised osprey nature is therefore as insufficient as that making claims towards a generalised species experience. Ospreys have their own geographies. They are attracted to, traversing of and dwelling within space. There is recognition that one must account for the broader material conditions in which animals exist and – in the absence of traces – I speculate on the kinds of geographical existences that may have been possible. Rather than flattening the capacity for action, involvement recognises a bumpy agential topography, distributed and differential in expression between and within different groupings of species.

In the chapters that follow I present five sites of osprey involvement, demonstrating the possibilities for a more lively and multidimensional historical engagement between humans and animals. An involved approach brings different arguments to the fore around the production and cohabitation of different spaces, the ethics concerning what and where lives are able to exist, and the varied futures they open up.

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<sup>299</sup> Haraway D (1991) op cit.: 4.

# Chapter 3

## ‘Operation Osprey’

*From ends to means in avian biosecurity*

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### 1. Introduction

**June 1959:** the first osprey chicks hatched at Loch Garten under the guard of the RSPB.<sup>300</sup> The Society’s Scottish Representative and mastermind of what had come to be known as Operation Osprey, George Waterston, informed the press and made arrangements for controlled public access to view the birds. Over the summer, until the public Observation Post (hereafter OP) closed in late August, some 14,000 people visited Loch Garten to see the ospreys. In his end of season report, Waterston wrote that ‘at times the patience of our watchers was sorely tried’ when fielding questions from a curious crowd. In one incident, ‘two old dears toiling up the peat track [...] asked whether they were on the right road to see the Ostriches.’<sup>301</sup> Others arrived assuming the birds were being kept captive. As one local warden recalls, ‘silly questions’ were commonplace. Visitors often asked, ‘when do you feed them?’<sup>302</sup> It was a frequent enquiry in the following years.<sup>303</sup> Mischievous wardens were known to respond with answers including ‘fish fingers’.<sup>304</sup>

This season marked the beginning of a continuing presence of returning pairs of ospreys at Loch Garten. Over two decades later, on 13<sup>th</sup> May 1985, mid-way through the incubation period of a breeding pair that had been returning to the site since 1980, the male collided with the nest tree whilst attempting to defend his mate from an intruding crow. This bird, which had dislocated its wing, was retrieved a short while later by the reserve manager, Stewart Taylor. Subsequent attempts to have the

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<sup>300</sup> The reader is encouraged to refer back to the map in Figure 1 for details regarding the location of key places mentioned in the text.

<sup>301</sup> Waterston G (1959) ‘Operation Osprey, 1959’, a full report on the season – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 6.

<sup>302</sup> Interview with a local resident in Nethy Bridge, 30 June 2014.

<sup>303</sup> *The Osprey* (13-20 June 1964) A weekly bulletin of Speyside wildlife, produced for public by the local staff of the RSPB, vol.1 no.7 – RSPB SHQ, Early Operation Osprey Box d117, uncatalogued: 1

<sup>304</sup> Interview with Richard Thaxton, former manager of the Loch Garten Osprey Centre, 8 December 2014.

wing set at nearby Kincaig Wildlife Park were unsuccessful and the male later died in captivity, surviving over a year at Edinburgh zoo.<sup>305</sup> Meanwhile, a few minutes after the human intruders had retreated, the female returned to her eggs, now without a mate to deliver the food required if they were to hatch and survive. In the days that followed, Taylor arranged for fish to be delivered to the weakened female on the nest. It was hoped that by sustaining her she would remain on the eyrie with her eggs and a new male might be attracted to join her. However, she was soon driven from the site by another female osprey. Taylor had her eggs removed from the nest, taking them home for artificial incubation (Figure 4).<sup>306</sup> One chick would survive, and was successfully fostered into a nest near Kingussie.<sup>307</sup> At Garten, the loss of a stable breeding pair saw the eyrie become the subject of an on-going territorial dispute amongst a number of ospreys, including the old female. Eventually, a newly mated pair would colonise the site again in 1988.

I began this thesis with the story of Operation Osprey: a narrative of iconic bird conservation success well treated in several historical empirical accounts. In introducing the Speyside project of osprey protection, display and conservation, as well as some of those individuals at the heart of that story, this chapter explores a profound transition in practice at Loch Garten. This transition is evident in these juxtaposed vignettes from 1959 and 1985, where the idea of feeding the ospreys evolves from being an absurd mistake or joke, to a serious tactic for sustaining osprey life at Loch Garten. To better understand the significance of this shift, I draw on Foucault's notion of biopolitics to investigate the changing means, objectives and outcomes of species protection involvements at Loch Garten and the manner in which this place has come to be central to the management of osprey 'life itself'. In what follows, I am concerned with how the changing nature and aims of Operation Osprey have produced a variety of conditions under which certain kinds of osprey

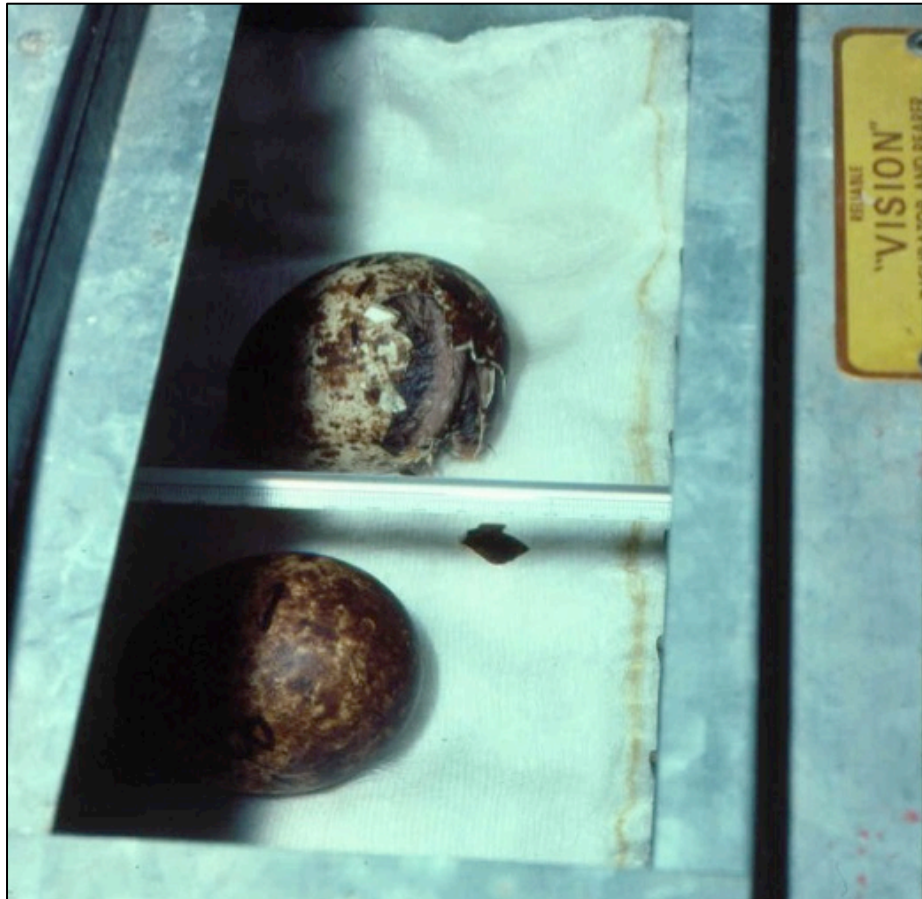
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<sup>305</sup> Animal record card for male osprey (1985) specimen deposited by RSPB at Highland Wildlife Park on 17 May 1985 – RZSS, Record Cards 1985; 'Specimen report ZBQ15-06038' (27 July 2015) Data from the International Species Information System regarding male osprey Edinburgh/285JA1 received 10 October 1985 by Edinburgh Zoo – RZSS, ISIS ZIMS database entry.

<sup>306</sup> Entries from the Loch Garten osprey log for the 1985 breeding season, vol. 1 of 3 (13-15 May 1985) – RSPB Sandy, uncatalogued.

<sup>307</sup> Interview with Stewart Taylor, former head of the RSPB Loch Garten and Abernethy reserves, 29<sup>th</sup> January 2014.

lives have come to flourish in different ways in different places. I describe the practices of 'biosecuring' of bird life beginning at Loch Garten in the mid-late 1950s and latterly transformed into an apparatus for acting *through* certain osprey individuals in order to secure others. As a result, the ospreys that nested here become not only the direct *ends* of attempts to protect and foster avian life, but also part of the *means* by which a burgeoning osprey population was encountered, promoted, and protected.



**Figure 4: Photograph showing the osprey eggs removed from the Loch Garten nest in an incubator as one begins to hatch, June 1985. Taken by and reproduced with the permission of Stewart Taylor.**

This chapter is therefore concerned with changing modes of 'biosecurity'. That is, following Foucault's discussions of how life is made governable, a concern with how threats to valued life are identified and mitigated in terms of harmful relations,

circulations or involvements.<sup>308</sup> There is also the question of which kinds of subjects are defended where, and how such action takes place within a broader 'milieu' of historical and geographical specificity.<sup>309</sup> Biosecurity efforts at Loch Garten operate within a porous space that is neither bounded nor demarcated 'by humans alone'.<sup>310</sup> As such, these practices have produced a contingent experience of osprey life that I describe as 'captured' into a block of 'becoming' with humans.<sup>311</sup>

I focus upon the use of secrecy as a means to keep ospreys safe, arguing that osprey biosecurity consists of multiple, on going, and unfinished projects.<sup>312</sup> First, I discuss the use of and limits to secrecy on Speyside, and the subsequent militarising of security at Loch Garten. I consider secrecy as a mechanism of security that has been reconfigured in the opening of the site to the public – an act of 'partial revelation'.<sup>313</sup> I argue that this transition represents a reworking of osprey biopolitics through this site, from an emphasis on ends to means. I describe how this change sees the site become a routinised and stratified *apparatus* of Loch Garten osprey protection. I draw on this Foucauldian term to emphasise the transformation from an *ad hoc* operation to something more formal and permanent in its involvement of human and osprey subjects.<sup>314</sup> Lastly, I conclude the chapter by reflecting upon the particular forms of osprey life that this more stabilised and routinised involvement has produced.

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<sup>308</sup> I draw from the work of Bingham N, Enticott G and Hinchliffe S (2008) op cit.; Braun B (2007) 'Biopolitics and the molecularization of life' *Cultural Geographies* **14**(1): 6-28; Clark N (2013) 'Mobile Life: Biosecurity Practices and Insect Globalisation' *Science as Culture* **22**(1): 16-37; Collard R (2012b) 'Cougar-Human Entanglements and the Biopolitical Un/Making of Safe Space' *Environment and Planning D: Society & Space* **30**(1): 23-42; Hinchliffe S (2007) op cit.; Hinchliffe S and Bingham N (2008) op cit.; Hinchliffe S et al (2013) op cit.; Law J and Mol A (2008) 'Globalisation in practice: On the politics of boiling pigswill' *Geoforum* **39**(1): 133-143.

<sup>309</sup> Foucault M (2007) op cit.: 21.

<sup>310</sup> Collard R-C (2012b) op cit.: 37.

<sup>311</sup> Deleuze G and Guattari F (2013) op cit.

<sup>312</sup> Clark N (2013) op cit.: 23.

<sup>313</sup> See Balmer B (2015) 'An Open Day for Secrets: Biological Warfare, Steganography, and Hiding Things in Plain Sight' in Rappert B and Balmer B (eds) *Absence in Science, Security and Policy: From Research Agendas to Global Strategy* (Palgrave MacMillan; Basingstoke & New York): 34-52.

<sup>314</sup> Agamben G (2009) op cit.; Deleuze G (1992) op cit.; Foucault M and Gordon C (1980) op cit.: 194-228.

## 2. Secrecy as a mechanism of osprey security

George Waterston was appointed the RSPB's Scottish Representative in December 1954. An ex-army officer, former prisoner of war, and heir to a prestigious Edinburgh printing firm, ornithology was his passion, and he longed to make it his sole living. Waterston was well known in Scottish birding circles, helping establish the Scottish Ornithologists' Club (SOC), in 1937, and two bird observatories on the Isle of May and Fair Isle. The latter, a lifelong ambition that he had planned whilst in wartime captivity, was realised in 1948 and saw him use his military contacts to purchase and repurpose the island's naval base for the study of bird migration.<sup>315</sup> His employment by the RSPB proved immediately successful, especially with the bigger estates, making promising gains in Perthshire for raptor protection.<sup>316</sup>

In June 1955, Waterston visited Speyside to investigate reports of osprey sightings. In contrast to the records of single and passing birds compiled since the end of the 1940s, it was clear that a pair were present, their nest-building behaviour suggesting active attempts to breed.<sup>317</sup> Following the reports of a local forester passed to him in confidence by Col. Iain Grant, a local ally and Laird of Rothiemurchus, a nest was eventually discovered mid-July in the Sluggan glen, northwest of Loch Morlich. Though the nest was empty – seemingly the birds arrived ‘too late’ to breed – Waterston convened a ‘Council of War’ comprising RSPB staff, Col. Grant and the Nature Conservancy's local reserve warden to devise plans for protection should the birds return.<sup>318</sup> Central to these plans, as I will now explore, was the practice of guarded secrecy that sought to secure space apart from humans for rare birds to breed in the landscape.

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<sup>315</sup> George Waterston's Fair Isle Correspondence, 1949-1952; 1935-1977 – SOC, Classmark 3.16, Shelf 2/4, Box 32.

<sup>316</sup> Minutes from a meeting of the RSPB Watchers' Committee (21 July 1955) RSPB Watchers Committee/Conservation Committee Minutes (Renamed Conservation Committee in October, 1966) July 1954 – November 1970 – RSPB Sandy, Classmark 01.01.11.

<sup>317</sup> Letter from George Waterston, RSPB Scottish Representative to Peter Conder, RSPB Reserves Department (30 June 1955) ‘Secret’ – RSPB Sandy, Box 01.05.709; see also ‘Ospreys in Scotland’, a list of osprey sightings between 1950 and 1955 appended to a letter from George Waterston to Peter Conder (2 July 1955) ‘Ospreys at Loch Morlich’ – RSPB Sandy, Box 01.05.709.

<sup>318</sup> Letter from George Waterston to Philip Brown, RSPB Secretary (13 July 1955) concerning the discovery of a nest in Rothiemurchus forest – RSPB Sandy, Classmark 01.05.709.

## Keeping ospreys and humans apart

For the RSPB Watchers' Committee, established 1905 to monitor and secure the status of rare breeding birds across Britain, secrecy was the primary tactic of bird protection. The isolation of so-called wild places could not be taken for granted to provide protection from the egg collector or gamekeeper.<sup>319</sup> The Society recruited trustworthy and skilled birdwatchers in areas where rare birds were known or reported to breed. These agents could report any breaches of the law, which the Committee would also lobby local councils to extend.<sup>320</sup> More importantly, watchers fed information on local bird numbers and distributions back to the RSPB, data that could determine the status of populations as threatened or in need of closer attention. Such information was kept secret, lest it fall into the 'wrong hands'.<sup>321</sup> This was secrecy as a 'collective assemblage' of mundane and situated practical activities.<sup>322</sup> Cautious fieldwork, careful correspondence with authorised personnel, and the suppression and closeted guarding of resulting information – such confidentiality enacted a separation of those humans deemed responsible and protection-minded in their involvement from those viewed as a threat.<sup>323</sup>

Prior to the 1954 Wild Birds Protection Act there had been no protection for raptors outside of special local scheduling, which could, paradoxically, advertise the presence of a rare breeding species.<sup>324</sup> Even after 1954, the law still proved extremely difficult to enforce in the remoter areas, like the Highlands, where threatened populations often appeared most likely to breed. Secrecy around the location of rare species thereby aimed to ensure rare birds were either encountered properly or left alone, practicing moral geographies of concealment that emphasised certain forms

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<sup>319</sup> 'Bird-Watchers' (25 March 1908) *Bird Notes and News* 3(1) [accessed at RSPB Sandy, The Lodge library]: 1.

<sup>320</sup> JLB (1911) 'The Work of the Watchers Committee of the Royal Society for the Protection of Birds', a supplement to *Bird Notes and News* (Autumn 1911) [accessed at RSPB Sandy, The Lodge library].

<sup>321</sup> Balmer B (2006) 'A Secret Formula, A Rogue Patent and Public Knowledge about Nerve Gas: Secrecy as a Spatial-Epistemic Tool' *Social Studies of Science* 36(5): 693.

<sup>322</sup> Balmer B (2016) *Secrecy and Science: A Historical Sociology of Biological and Chemical Warfare*: 13; Deleuze G and Guattari F (2013) op cit.: 334; McLeish C (2010) 'Opening up the secret city of Stepnogorsk: biological weapons in the Former Soviet Union' *Area* 42(1): 66.

<sup>323</sup> Balmer B (2016) op cit.: 59.

<sup>324</sup> See Harvie-Brown J (1896) 'No. 6 – Osprey' *The Society for the Protection of Birds Educational Series, 1896-1898* – RSPB Sandy, Classmark 01.03.11.

of bodily and epistemological involvement whilst condemning others.<sup>325</sup> Those who practised less reserved modes of ornithology, including the egg collector or the ‘restless, superficial flitting’ of an emergent list-driven ‘twitcher’<sup>326</sup>; the gamekeepers persecuting hooked-beak ‘vermin’; or even simply members of the wider public with an unchecked or ignorant curiosity, were all to be kept under informed as a ‘necessary evil’.<sup>327</sup> Only those who could practice a cautious and distanced form of proximity were trusted with the details of rare birds’ locations. Rare bird populations flourished best when far from human involvement.<sup>328</sup>

For a species like the osprey, this secrecy was also explicitly justified in relation to an apparent sensitivity to human disturbance. Waterston himself would write in 1957 of how ospreys were ‘very timid’.<sup>329</sup> In 1958, the RSPB would describe how an osprey at the nest ‘deserts readily’, appealing to its members not to approach the birds ‘however well intentioned.’ Even seemingly minor or ‘unintentional disturbance’ could potentially be disastrous, leading to ‘the loss of the clutch without the person responsible knowing the damage he had inflicted.’<sup>330</sup> As such, a conjured behavioural response on the part of the osprey characterised the species in terms of a fragile wildness and gave credence to a thesis whereby secrecy aimed to protect birds from overtly damaging human presence.<sup>331</sup>

In 1955, Waterston felt ‘pretty certain’ that, besides his confidants in the area, no one else knew of the birds’ existence in the Sluggan.<sup>332</sup> Around this nest, on ground owned by the cooperative Forestry Commission, he laid plans to defend the birds in secret. The correspondence around plans for 1956, marked ‘Strictly Confidential’,

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<sup>325</sup> See Matless D (2000a) op cit.

<sup>326</sup> Nicholson M (1932) *The Art of Birdwatching*: 59.

<sup>327</sup> Nicholson M (1958) ‘The Rarer Birds of Prey: Their Present Status in the British Isles’ in *The Rarer Birds of Prey: Their Present Status in the British Isles*, RSPB Occasional Publication No. 28 – RSPB Sandy, Classmark 01.03.13.

<sup>328</sup> Metcalf J (2008) ‘Intimacy without Proximity: Encountering Grizzlies as Companion Species’ *Environmental Philosophy* 5(2): 115.

<sup>329</sup> Waterston G (1957) ‘Ospreys in Speyside’ *Bird Notes* 27(5) [accessed at RSPB Sandy, The Lodge library]: 131.

<sup>330</sup> Sandeman G (1958) ‘Osprey (*Pandion haliaëtus*)’ *The Rarer Birds of Prey: Their Present Status in the British Isles*, RSPB Occasional Publication No. 28, op cit.

<sup>331</sup> See the discussion of managing the white ibis in McKiernan S and Instone L (2015) ‘From pest to partner: rethinking the Australian White Ibis in the more-than-human city’ *Cultural Geographies* [Published online before print, doi: 10.1177/1474474015609159].

<sup>332</sup> Letter from George Waterston to Philip Brown, RSPB Secretary (13 July 1955), op cit.



described phases by which the ground would be levelled for a hide and a foresters hut refurbished to house wardens under the auspices of routine forestry maintenance. This duality of function gave a vital pretence, obscuring the true motive of such preparations.<sup>333</sup> A watcher would inform Waterston when the birds returned and he would keep guard until young hatched. After such time, consideration would be given to opening the site to the public. Until the hatch, the RSPB would maintain 'the greatest possible secrecy.'<sup>334</sup>

Waterston therefore sought to employ secrecy first and foremost as a means to keep humans and ospreys separate. Keeping the birds a secret withdrew them from harmful involvements with humans, preventing the articulation of osprey geographies with the more violent forms of ornithological curiosity.<sup>335</sup> In the terms of sociologist Georg Simmel, this secrecy was an act of carving out space in the landscape for the osprey to exist. Secrecy affected a 'second world' for birdlife – a space of relative sanctuary within a wider field of human and animal relations – by obscuring ospreys' presence from those with whom an encounter could prove harmful.<sup>336</sup> Practicing osprey secrecy on Speyside, however, turned out to be far from straightforward. Waterston's attempts to ensure the birds were hampered when a series of threats materialised, and a more militarised form of secrecy was soon called for.

### **The enemies of osprey protection**

Secrecy is a messy affair: 'covering and uncovering' do not happen 'cleanly or automatically'; 'multiple worlds are circumscribed but not entirely isolated.'<sup>337</sup> Despite their best efforts, the RSPB's preparations for the ospreys' return did not go unnoticed. A local County Councillor and infamous Speyside naturalist, Desmond Nethersole-Thompson, soon found the excuse to raise objections to the RSPB's

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<sup>333</sup> McLeish C (2010) op cit.: 66.

<sup>334</sup> Waterston G (undated – presumed late 1955, early 1956) 'Strictly Confidential, Operation Osprey'. A report on the preliminary plans for protecting ospreys in the Sluggan – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>335</sup> McLeish C (2010) op cit.: 66; Valentine G and Hughes K (2011) 'Shared space, distant lives? Understanding family and intimacy at home through the lens of internet gambling' *Transactions of the Institute of British Geographers* 37(2): 247.

<sup>336</sup> Simmel G (1906) 'The Sociology of Secrecy and of Secret Societies' *American Journal of Sociology* 11(4): 462.

<sup>337</sup> Balmer B (2016) op cit.: 14.

plans, citing an alleged road closure in the Sluggan at a public planning meeting on the 8<sup>th</sup> of March to ensure, as Waterston argued in his condemnation, that the press would publish mention of the ospreys and their nest site.<sup>338</sup>

Nethersole-Thompson was a complex figure. His motives derived in part from his own past involvement with the RSPB as their man on the ground watching in Speyside. But the relationship had broken down and Waterston had been hired as a more reliable and professional replacement. Nethersole-Thompson was notoriously anti-establishment in his politics, but both his field skill and knowledge of Speyside birds were valued by the Society. He had served as their watcher from 1940, generally without major disagreement, until the 1953 Nature Conservancy (hereafter NC) proposals for a Cairngorm National Nature Reserved prompted an open rebellion.<sup>339</sup> Many of the objections that he had raised to that project were echoed in his criticism of Waterston's plans for the ospreys: an outside institution seeking to impinge on local access rights; a closeness with large landowning interests; and a desire to profit from birdlife as much as scientifically understand it. Nethersole-Thompson felt himself a better authority on the region's bird life than some rank outsider. He and his son, Brock, had been observing and recorded osprey's breeding in 1954 but he did not report this to the RSPB until such time as he countered Waterston's claim that the ospreys' breeding was a secret. Nethersole-Thompson made clear that many local people knew of the birds and that, if anything, the actions of the RSPB, with their attempts at discretion, had drawn attention and fascination towards them.<sup>340</sup>

Later that spring the ospreys returned, albeit not to the Sluggan. Nesting in Rothiemurchus forest, they were soon discovered and audio-recorded by Nethersole-Thompson. The RSPB learned of his actions only when the recordings

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<sup>338</sup> 'Ospreys return to Britain: Nesting again in Inverness-shire, first in 50 years' (9 March 56) *The Scotsman*; Nethersole-Thompson D (12 March 1956) 'Letter: The Return of the Osprey' *The Scotsman*; Waterston G (14 March 1956) 'Letter: The Return of the Osprey' *The Scotsman*; Nethersole-Thompson D (16 March 1956) 'Letter: The Return of the Osprey' *The Scotsman* – SOC, Newspaper Cuttings File, c.1950-1991, Box 72; see also Waterston G (1957) 'Ospreys in Speyside' *Bird Notes*, op cit.

<sup>339</sup> Correspondence between Nethersole-Thompson D, the RSPB and others regarding Watching arrangements on Speyside, 1940-1953 – RSPB Sandy, Spey Valley: Cairngorm & Rothiemurchus (1940-53), Classmark 01.05.72(Z).

<sup>340</sup> Nethersole-Thompson D (16 March 1956) 'Letter: The Return of the Osprey', op cit.

were sold to the BBC. By the time Waterston's contacts had found the nest it was already deserted. The consensus was that Nethersole-Thompson's actions had disturbed the birds; allowing the nest to go unguarded and any eggs to be predated by crows.<sup>341</sup> These events saw him labelled 'Public Enemy Number 1' by both the RSPB and NC.<sup>342</sup> For Waterston and others there was a realisation that there existed individuals who, despite efforts to contain information, were both aware of the ospreys and would attempt to get close to them. Birds' nests could still be robbed and information could make it into public hands. Some measure of ground presence was required, separating unauthorised personnel from the ospreys; such a move was justified via a narrative akin to 'national security.'<sup>343</sup>

It was a minor consolation: a weekend party of SOC members in Aviemore in mid-May had discovered a large eyrie structure on the southern shore of Loch Garten, within the bounds of the sympathetic Seafeld estate (Figure 5). Waterston dispatched a reconnaissance force to Speyside in 1957, based in a cottage in Rothiemurchus from April, in an attempt to locate the birds before any antagonist did. Upon a pair returning to settle, a watch of 'tough characters' would be discretely mobilised to defend the site.<sup>344</sup> Following wartime conventions, the scheme had by now come to be known as Operation Osprey, and saw ex-army Colonel Guy Brownlow, along with a warden from the NC and others from the RSPB, comprise a reconnaissance force to search the region for ospreys.<sup>345</sup> They eventually discovered and watched a single male frequenting the large Garten eyrie until mid-June.

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<sup>341</sup> Waterston G (6 July 1956) 'Ospreys in Speyside 1956, Report to the Watchers' Committee by Mr George Waterston, STRICTLY CONFIDENTIAL' - RSPB Sandy, Classmark 01.05.709.

<sup>342</sup> 'A note on a meeting between the Royal Society for the Protection of Birds, the Nature Conservancy and Col. Grant to Discuss the Speyside Problem' (26 October 1956) - RSPB Sandy, Classmark 01.05.709; Waterston G (22 April 1957) 'Ospreys in Speyside' A preliminary report in haste for the RSPB and Nature Conservancy - RSPB Sandy, Classmark 01.05.709.

<sup>343</sup> See Enloe C (1983) *Does Khaki Become You? The Militarisation of Women's Lives*.

<sup>344</sup> Waterston G (6 July 1956) 'Ospreys in Speyside 1956, Report to the Watchers' Committee by Mr George Waterston, STRICTLY CONFIDENTIAL', op cit.: 3.

<sup>345</sup> Adams W (2004) op cit.: 132.



**Figure 5: Photograph of the south Loch Garten osprey eyrie, April 1959. Taken by Lord David Hope – SOC, George Waterston Archive 5, Classification 3.16, Shelf 2/4, Box 289.**

The activities of these wardens reflected two things: that the osprey's presence was guarded as secret, and that the bird itself the object of a 'secret mode of perception'.<sup>346</sup> The latter, in particular thought to be practiced by Public Enemy No. 1, represented the attempts of those, in parallel secrecy, attempting to know or subvert the Society's plans for protection and discretion. Protectionists had to practice their own secrecy, recognising the possible presence of those who might undermine it. They would have to alter their movements and business in the region to confuse or mislead those imagined to be watching, such as splitting personnel between a camp in the woods near the eyrie and a cottage on Rothiemurchus.<sup>347</sup> Other activities like watching for the birds on the loch shore or from southern hill slopes were conducted with subtlety and pretence. Occasionally, Brownlow would

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<sup>346</sup> Deleuze G and Guattari F (2013) op cit.: 334.

<sup>347</sup> Entry from the Loch Garten osprey log for the 1957 breeding season, vol. 1 of 2 (21 April 1957) – RSPB Forest Lodge, uncataloged microfiche, 1957 log, Sheet 1.

drop everything and race off to nearby loch where the osprey had been seen to fish, following a report that 'PE1', Nethersole-Thompson himself, had been sighted driving in that direction.<sup>348</sup>

In 1957, only a single bird appeared.<sup>349</sup> Waterston put similar plans in place for 1958. Resolve was strengthened by the discovery of correspondence, seized in the police raid on the home of a known egg-collector, which suggested that osprey eggs *had* been taken on Speyside in both 1955 and 1956.<sup>350</sup> An ex-RAF comrade of the RSPB secretary Phillip Brown provided the advance guard. On confirming the presence of the birds other watchers – many of them ex-servicemen, affiliated with the SOC, NC or RSPB – were called in to protect the nest. The appearance of more tangible threats to the birds was underlined by two further instances of disturbance early in the season: the first by a curious member of the public, approaching the nest for a better look; the second by a known egg collector, who was angrily escorted from the area by the wardens. All this occurred a mere two days after the secret code word 'Inflation' had been sent by the watcher on Speyside to inform Waterston that the birds had returned.<sup>351</sup> These events convinced him to re-instate the camp in the forest nearer to nest, to be on hand for defending the birds.

### **Militarising secrecy**

Here, in essence, was the substance of the osprey's militarisation. Waterston and others – current and future RSPB secretaries Philip Brown and Peter Conder – had served during the war. Captured after the battle of Crete, Waterston, along with Conder, experienced much of the conflict as a prisoner. These men found in bird-watching a means of escaping the tedium and the grim reality of their captivity.<sup>352</sup> Migratory bird species and the familiar sound of their song offered a tangible link to

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<sup>348</sup> Entry from the Loch Garten osprey log for the 1957 breeding season, vol. 1 of 2 (1 May 1957) – RSPB Forest Lodge, uncatalogued microfiche, 1957 log, Sheet 1.

<sup>349</sup> Conder P (undated – presumed 1957) 'Osprey Watching in 1957' – RSPB Sandy, Classmark 01.05.709.

<sup>350</sup> Minutes from a meeting of the RSPB Watchers' Committee (13 November 1957) RSPB Watchers Committee/Conservation Committee Minutes (Renamed Conservation Committee in October, 1966) July 1954-November 1970 – RSPB Sandy, Classmark 01.01.11.

<sup>351</sup> Brown P (21 May 1958) 'Operation Scotland', a short report on the delay in raising NC wardens to assist in guarding the osprey nest at Loch Garten – RSPB Sandy, Classmark 01.05.709.

<sup>352</sup> See in particular the empirical work and writing of Niemann D (2012) *Birds in a cage*.

the landscapes of home.<sup>353</sup> Via the camp-like materiality of surveillance – barriers and barbed wire – Waterston would bring a certain ‘POW mentality’ to bird protection.<sup>354</sup> Defending the survival of rare species was an activity that resonated with a military background, skillset and bodily discipline. Much post-war conservation was objective-oriented, and such projects offered not only the ‘redemptive possibility of beating swords into ploughshares’ by securing a ‘national nature’ for which the war had been fought, but also a chance to once more engage ‘a real baddy’.<sup>355</sup> Militaristic practice and discourse were based in an assumption that one had ‘enemies’ to fight against, and the figure of the egg-collector offered a convenient ‘passage point’ through which to make sense of one’s place in society and nature post-conflict.<sup>356</sup>

For those emerging from armed service, bodies and minds were ready-disciplined and trained to approach problems in a certain way. Military solutions (and associated technical and logistical expertise) to non-military problems were presented as ‘common sense’. In part, as I’ve described, secrecy had become ‘common sense’ within bird protection, a militarising practice in its polar separation of authorised and unauthorised personnel akin to the binaries of allies and enemies, civilian and military. Secrecy justified the closure of space, a hierarchy of authorised involvement, and, subsequently, the engineering of the site.<sup>357</sup> Indeed, with so many ‘enemies’ of the osprey – ignorant passers-by, twitchers, or egg-collectors – variously threatening, a military approach, for Waterston at least, appeared obvious, favouring operational language, memos marked STRICTLY CONFIDENTIAL, and a use of military time. In addition, accounts of early camp life at Loch Garten detail a set-up with a certain ambiguity around how much force could (or should) be exercised in defence of the birds. A leather cosh was hung in

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<sup>353</sup> Greer K and Cameron L (2006) op cit.

<sup>354</sup> Gillies M (2011) *The Barbed Wire University: The Real Lives of Prisoners of War in the Second World War*: 410.

<sup>355</sup> Adams W (2004) op cit.: 133; Macdonald H (2002) op cit.: 59-60; Interview with Frank Hamilton, former RSPB Scottish Officer and Operation Osprey warden 1958-59.

<sup>356</sup> Davis S (2011) op cit.: 230.

<sup>357</sup> See Enloe C (1983) op cit.: 10-11.

the hide and Col. Grant would often go on watch with a .22 rifle trained on the tree.<sup>358</sup>

Despite the guard kept over the weeks of April and May, the nest was robbed in the early hours of 3<sup>rd</sup> June 1958. Those on watch saw the bird alight with alarm and spotted the intruder atop the nest tree but struggled across the intervening marsh separating the birds' eyrie and their hide. The culprit leapt from the tree and escaped. Checking the area, the wardens found two broken eggs in the heather but an investigation of the nest revealed two remaining. The following morning the lower branches were sawn off after the ease with which the intruder had reached the nest. Waterston lamented not having taken such pre-emptive steps *before* the birds had returned to the site at the start of the season, but he had feared disturbing them after they arrived.<sup>359</sup> When the female remained restless, a second nest check revealed the remaining clutch to be comprised of two chicken's eggs daubed in boot polish (Figure 6). This technique, noted again in relation to robberies during the 1970s and 1980s, was intended to disguise the fact that a nest had been emptied until after the assailant had escaped the area.<sup>360</sup> Though the identity of the culprit was never established, Waterston would personally conclude that the motive had been one of 'spite'.<sup>361</sup> After the robbery, the ospreys spent less and less time at their nest and built a second eyrie in a tree to the north east of Loch Garten, departing at the end of June.

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<sup>358</sup> See the candid correspondence between George Waterston and Philip Brown (25 May 1979; 31 May 1979) concerning Brown's book *The Scottish Ospreys: From Extinction to Survival*, and his mention of Grant bringing a rifle into the hide – SOC, 'Correspondence and text of The Scottish Osprey', George Waterston Archive 5, Classmark 3.16, Shelf 2/4, Box 289.

<sup>359</sup> Waterston G (22 July 1958) 'Operation Osprey -1958', a report to the Watchers' Committee on the events of the season and nest robbery – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 3.

<sup>360</sup> Interview with Guy Shorrocks, Senior Investigations Officer, RSPB Sandy, 3 June 2014.

<sup>361</sup> See his reflections on 1958 in Waterston G (6 June 1971) 'Comments on Theft of Loch Garten Osprey Eggs' – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.



**Figure 6: Photograph of the ‘imitation osprey egg’ discovered in the south Garten nest following the robbery in 1958 – RSPB Sandy, Classmark 01.00.09. Taken by the author, October 2013.**

Notwithstanding the failure of military secrecy, the decision was made to publish news of the robbery. The RSPB reported details of ‘The Osprey Disaster’ to its membership, along with an appeal for donations to the protection effort, in their journal that September.<sup>362</sup> The public reaction was strongly in support of the Society and its protection attempts. Max Nicholson, chair of the NC, opined privately to Waterston that the robbery might prove a boon, arousing public sympathy and interest in the aims of bird protection.<sup>363</sup> Reporting of the incident, however, continued to withhold the location of events, referring only to ‘the Scottish Highlands’. This effort to retain some geographical discretion was undermined again, however, by the politics of secrecy on Speyside. That December, Nethersole-Thompson wrote of the events on Speyside – and the eyrie’s location – for the *Manchester Guardian*.<sup>364</sup>

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<sup>362</sup> ‘Miscellany: The Osprey Disaster’ (1958) *Bird Notes* 28(4) [accessed at RSPB Sandy, The Lodge library]: 362-364.

<sup>363</sup> Brown P (1962) ‘The Return of the Osprey’ in Brown P and Waterston G (eds) *The Return of the Osprey*: 62-63.

<sup>364</sup> Nethersole-Thompson D (9 December 1958) ‘The Osprey’s Fight for Survival: A Saga of the Highlands’ *The Manchester Guardian* – The Guardian and Observer Digital Archive [Accessed online on 31 March 2015]: 5.



Almost immediately Waterston contacted the Scottish Home Department to request a designated bird sanctuary be declared around the eyrie tree.<sup>365</sup> The core weakness of the 1954 Act had been that one could only prosecute those who committed actual, bodily harm against the bird or took its eggs. Those who caused the osprey significant disturbance, which might well prove as harmful, were not breaking the law.<sup>366</sup> The sanctuary allowed the Society to exclude the public from the area of the nest whilst permitting the approach of 'authorised personnel' (Figure 7). In the manner of a military base, such legislation – in addition to physical barriers – would 'keep enemies out' by enacting an enforceable, legal distinction between those permitted to be involved and those not.<sup>367</sup> A copy of this sanctuary order was kept on site, along with a signed letter from the factor of the Seafeld estate, lending authority if any evictions were required. Signs advertising the limits of the reserve were staked out. Members of the public might be aware that ospreys were attempting to nest, but legally they were neither permitted to approach nor examine closely the Society's defences.

The sanctuary enabled the exclusion of the public, but more solid defences were also required given any egg-collector was already be operating outside the law. In response to the robbery the RSPB's Council decreed all osprey nests be rendered 'unclimbable'.<sup>368</sup> In doing so, they sanctioned a more involved approach at the nest, engineering of the osprey's environment into a landscape that was aligned with the strictures of defence.<sup>369</sup> Some of these defences were visibly obvious to the onlooker and intended in part as a deterrent as much as to slow a robber. Barbed wire was attached to the trunk and branches removed at both the south and northeast Garten nest sites.<sup>370</sup> There were also defences that were hidden, designed to render certain

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<sup>365</sup> 'Proposed Bird Sanctuary at Loch Garten, Inverness-shire' (undated – presumed late 1958) Official application to the Secretary of State for Scotland to approve a bird sanctuary around Loch Garten with handwritten annotations by Waterston – RSPB Sandy, Early Operation Osprey, Box d117, uncatalogued.

<sup>366</sup> See Brown P (1962) op cit.: 53.

<sup>367</sup> Balmer B (2016) op cit.

<sup>368</sup> Minutes from a meeting of the RSPB Council (26 November 1958) RSPB Council Minute Books, 20, Council, April 1949-February 1960 – RSPB Sandy, Classmark 01.01.11.

<sup>369</sup> Gold J and Revil G (1999) 'Landscapes of defence' *Landscape Research* **24**(3): 229-239.

<sup>370</sup> Frank Hamilton's Bird Diary 1949-1959 – SOC, Classification 3.18, Shelf 3/2, Box: 360: 499-500.

conditions in the landscape favourable to allies and disadvantageous to enemies.<sup>371</sup> A concealed path of duckboards led from the hide to the nest tree, allowing wardens to quickly traverse the boggy ground that would slow an intruder. The presence of hides, albeit visible to an intruder, reflected a need to stay hidden throughout from the birds themselves, lest a militarised guard itself prove a disturbance (discussed further in Chapter 5). In this way, then, the nest area became a miniature 'battlefield' as the osprey environment was 'militarised', re-imagined and re-worked.<sup>372</sup>

Waterston borrowed more explicit tactics and materials from the military. Rather than one hide, there would be a series of structures, at varying proximities and with different orientations towards the nest so as to spot any approach (see Figure 7). Intervening vegetation would be 'gardened' to make the space more open and amenable to the securing gaze.<sup>373</sup> Given the difficulty of mustering reinforcements during the previous year's robbery, a variety of militarised systems of communication would be deployed. A code for signalling between hide by torchlight was prescribed, allowing silent communication by those on watch.<sup>374</sup> Waterston also contacted a birding acquaintance, now an infantryman in the Seaforth Highlanders at Fort George, to arrange the loan of an army field telephone system. This would allow him to link the different hides with each other and with the new wardens' basecamp to be located at Inchdryne, on the land of sympathetic local crofter. Arranging for a detachment of soldiers to assist in placing these defences, Waterston explicitly compared the protection of the birds to 'a military

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<sup>371</sup> Forsyth I (2014) 'Designs on the desert: camouflage, deception and the militarization of space' *Cultural Geographies* 21(2): 261.

<sup>372</sup> Woodward R (2014) 'Military landscapes: Agendas and approaches for future research' *Progress in Human Geography* 38(1): 41.

<sup>373</sup> Waterston G (24 September 1958) 'Operation Osprey - 1959', comments by Waterston on a memorandum by Philip Brown of 23 September 1958 - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 1; see also the discussion of engineering the town of Nantes with wider and more regular streets so as to better improve surveillance and policing in Foucault M (2007) op cit.: 18.

<sup>374</sup> 'Back Hide, Night Hide, Log Book Instructions' (undated - presumed 1959) a sheet of instructions for wardens in the hides the details instructions for using the 'three-colour torch' in the night hide - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

operation,’ arguing that their assistance in the matter should be considered ‘a sort of exercise for the troops.’<sup>375</sup>

The wardens engaged with the nest site in militarised terms, many of them finding a resonance between such activities and their own military experience. Entering the hide, one would inspect the phone lines, sign on and off duty, and ‘synchronise watches’. Suspicious activity was recorded with military-time-stamped entries in a logbook and events were choreographed in accordance with a series of issued ‘standing orders’.<sup>376</sup> A large pair of ex-navy optics was repurposed from searching for enemy ships to protecting a rare species. Such devices and instructions enacted the shared experience of military service. For those without the experience of wartime training, particularly when staffing the project with volunteers, standing orders subjectified bodies into the kind Waterston required: an organised, ornithological paramilitary that could keep the ospreys safe.<sup>377</sup> Under the on site command of local mountaineer, birder and ex-RAF Wing Commander Dick Fursman, the camp was run from 1960 to 1969 with a palpable sense of military discipline.<sup>378</sup>

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<sup>375</sup> Letter from George Waterston to 2<sup>nd</sup> Lt. David Hope, Fort George (21 January 1959) ‘Operation Osprey 1959’ – SOC, George Waterston Archive 5, Classification 3.16, Shelf 2/4, Box 289.

<sup>376</sup> ‘Operation Osprey, Standing Orders’ (undated – presumed 1959) – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>377</sup> Foucault M and Gordon C (1980) op cit.: 58.

<sup>378</sup> Interview with Mike Everett, former member of RSPB staff in the Scottish Office and the Species Protection Department, 17 October 2013.

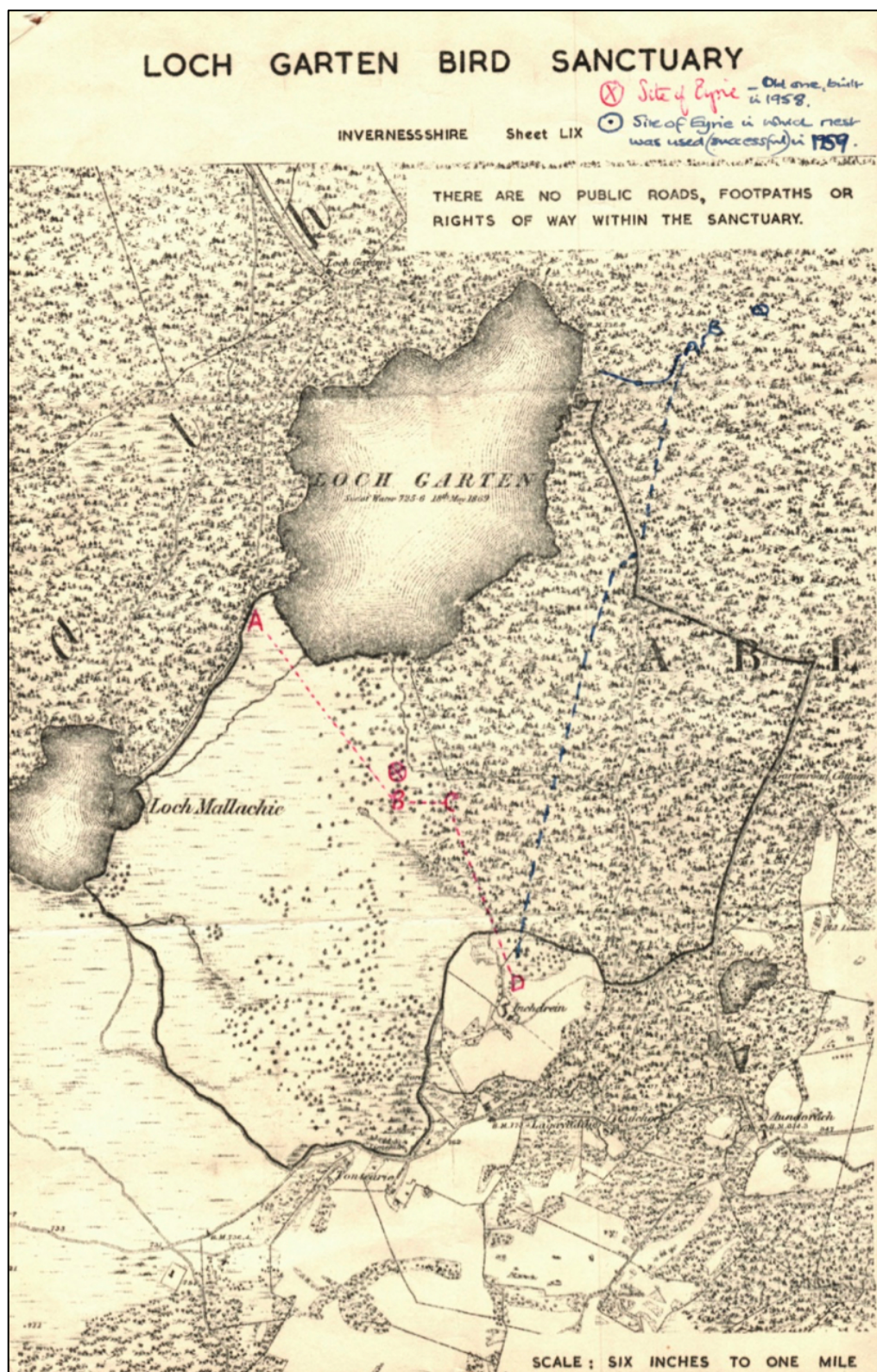


Figure 7: Annotated copy of a map of the proposed Loch Garten bird sanctuary area showing the south Garten and northeast eyries (X), with the planned hides and phone links (red) and the actual set-up after the birds returned in 1959 (blue). In the possession, and reproduced with kind permission, of Lord David Hope of Barony. Photographed by the author, June 2013.

The purpose of secrecy on Speyside was, as I have shown, to secure a space in the environment for ospreys to re-colonise. Secrecy aimed to inhibit certain kinds of involvement with birds. However, when it became clear that there were tangible threats on Speyside, the construction of material defences appeared to be the answer. This was a militarised encounter with the osprey that saw military experience mesh with species conservation by way of the affective ‘passage point’ of defined ‘enemies’. I now discuss how secrecy was ultimately reworked in line with an emergent osprey biosecurity strategy characterised – to follow Brian Balmer’s phraseology – by a practice of ‘partial revelation’.<sup>379</sup> As a consequence of this approach, the objectives of osprey protection at Loch Garten would shift from an annual aim of securing the ospreys to breed there towards longer-term involvement at the site through which a growing population of birds could be safeguarded across Scotland.

### **3. Public display and concealment**

Historically, the conservation of a threatened raptor species has demanded the location of a nest. This is so that practices of protection, monitoring and attention can be organised around the site where actual biological reproduction occurs to prevent disruption.<sup>380</sup> In the case of the osprey, attempts had been made to keep this site a secret, as it was also the place where the most damage could be done to the chances of a successful re-colonisation. However, keeping the birds secret was made harder by virtue of their expressed geographical range. In this section I explore some of the additional challenges to maintaining a militarised and secret exclusion at Loch Garten, and the eventual decision to open the site to the public that, in turn, led to a reworking of the role of secrecy within a broader raptor biopolitics.

#### **Ospreys and the limits of secrecy**

In its most basic expressions, osprey life is mobile. Birds range over tens of kilometres to visit favoured fishing grounds and the defended limits of a defined nesting territory appear to vary with context.<sup>381</sup> At the nest, territorial displays and skirmishes might animate the skies overhead. These are also physically large, distinctive birds, inhabiting large eyrie structures often found in prominent, open

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<sup>379</sup> See Balmer B (2015) op cit.

<sup>380</sup> Newton I (1979) op cit.: 269.

<sup>381</sup> See Poole A (1989) op cit.

positions. As such, attempts to keep osprey existence discretely under wraps had to contend with the fact that osprey life itself often proved 'too big' to easily contain.<sup>382</sup>

Ospreys were a leaky presence on Speyside. Rumoured reports and sightings had drawn eager bird watchers – as well as other, more nefarious, characters – here since the mid-1950s: a destination already known to be a haven for several rarer bird species.<sup>383</sup> Waterston, searching for a possible nest site in the summer of 1955, had himself come across such individuals seeking their own encounters with a rumoured osprey presence. His authority as the RSPB's representative had convinced some of those he had met to share their observations or information with him.<sup>384</sup> Perhaps with these experiences fresh in mind, Waterston and his 'Council of War' had acknowledged early on that it would be 'quite impossible' to maintain indefinite secrecy if these birds settled to breed. Plans were tentatively made to publicise a successful hatching and allow public viewing of the ospreys in a controlled manner from a safe distance. This would also allow the RSPB an opportunity to collect donations and publicise its own agenda of bird protection via leaflets, posters and other 'propaganda'.<sup>385</sup> Revealing the osprey secret could prove a strategic benefit, generating publicity and local goodwill around the RSPB cause such that 'no egg collector would dare interfere'.<sup>386</sup>

When the birds returned in 1959 it was not to the South Garten tree, around which defences had been installed, but to their alternative nest site to the northeast. The hides, phone lines, and duckboards had to be disassembled and taken up,

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<sup>382</sup> Deleuze G and Guattari F (2013) op cit.: 334-335.

<sup>383</sup> Sandeman G (1955) 'The Old Caledonian Forest' *Bird Notes* **26**(6) [accessed at RSPB Sandy, The Lodge library]: 174-175.

<sup>384</sup> Waterston describes meeting three young birdwatchers sheltering in a bothy and having seen ospreys near Loch Morlich in the letter from George Waterston to Peter Conder (2 July 1955) 'Ospreys at Loch Morlich', op cit.; and later encountering a member of the London Natural History Society with similar motives as described in a letter from George Waterston to Philip Brown, RSPB Secretary (13 July 1955) op cit.

<sup>385</sup> This terminology is used several times in relation to publicising the protection of birds via leaflets, posters and booklets in general and in relation to 'Operation Osprey'. For example, in relation to publicising the Protection of Birds Act see the minutes from a meeting of the RSPB Watchers' Committee (25 July 1956) RSPB Watchers Committee/Conservation Committee Minutes (Renamed Conservation Committee in October, 1966) July 1954 – November 1970 – RSPB Sandy, Classmark 01.01.11.

<sup>386</sup> Letter from George Waterston to Peter Conder (2 July 1955) 'Ospreys at Loch Morlich', op cit.: 1; see Balmer B (2015) op cit.



reassembled and re-laid at this new site with care and, in some cases, under the cover of darkness to avoid disturbing the birds. In addition, the BBC provided Waterston with a high-powered microphone that allowed those on duty to listen for sounds of disturbance from the hide, which involved some disturbance to the birds to install (see Chapter 5). The commute between basecamp and the hide would be worked out over the years by way of volunteers' cars, a succession of 'camp cars' and a ramshackle fleet of bicycles.

The site of the nest was outwith the bounds of the designated special protection area, centred on the previously robbed structure (Figure 7). Waterston therefore feared that the site would prove difficult to protect without a mandate for legally excluding the public. The militarised protection proved to be a success, the first chick hatching on 9<sup>th</sup> of June and the others following relatively soon after. Waterston decided to announce the news publicly, and to make provisions to show the birds in a carefully controlled manner from a makeshift observation post set 'a safe distance' away and screened from view by trees and a fabric curtain.<sup>387</sup> Whilst the grandees of the RSPB were wary of such a departure from the traditional tactics of closeted and closely guarded secrecy around rare populations, he reasoned that such a tactic would limit the number of 'rubberneckers' who might attempt their own, more damaging means of getting close to the birds if no provisions were made to open the site.<sup>388</sup> The location of the nest was more widely known, thanks to Nethersole-Thompson, and realistically there was little chance of keeping a curious public away. Controlled access was therefore a means of bringing the separation of human and bird wrought in the initial protection plans into the area around the nest. Visitors would be channelled through the space in such a way as to mitigate any impact of their presence on the birds.<sup>389</sup>

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<sup>387</sup> 'Ospreys Hatch Eggs Successfully in Scotland' (undated – presumed June 1959) Press handout announcing of the successful hatching – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>388</sup> See his reflections in Brown P (1962) op cit.; (1979) op cit.; Waterston's reasoning is given in 'Operation Osprey, 1959: Points for discussion' (26 October 1958) Annotated agenda for a meeting held in Perth between the representatives of the RSPB and the Nature Conservancy – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 4.

<sup>389</sup> Davis S (2011) op cit.: 231.

Over the summer of 1959 around 14,000 people came to view the birds, making the enterprise 'one of the most successful protection operations in the Society's history.'<sup>390</sup> Donations received totalled over £500, covering around half the project's costs, which included material for defences as well as food, lodgings and transport for wardens.<sup>391</sup> Local hotels offered free access to their amenities to the nest guard, and residents pitched in with hide duty out of a sense of pride in 'their birds'. As Waterston concluded in his report for this first successful season:

'One thing is certain anyway - that the society will have to continue protection for several years to come. If the Ospreys return to the same eyrie next year, arrangements will have to be made for controlling the public and preventing disturbance.'<sup>392</sup>

## **Strategic revelation**

I argue that this decision to display the birds represents a strategic use of revelation.<sup>393</sup> It was, in turn, a strategy that I argue affected the beginnings of a particular osprey biopolitics still reliant upon secrecy, rather than the abandonment of secrecy altogether. Plans for the defences in the following years were still organised and discussed in private, but opening the site presented the RSPB's involvement as one of stewardship – *for* the public's enjoyment, rather than in spite of it. The ospreys were protected for all and such encounters with spectacular nature would see ethical and aesthetic considerations extended to the avian other.<sup>394</sup> Loch Garten would come to act as a conservation 'monument': those charged with causing the osprey's extinction were framed in negative terms through the site and its narrative, whilst the actions and philosophy of the Society were celebrated for securing the species return.<sup>395</sup>

As the subsequent decade progressed, ospreys began to re-colonise other locations. Between 1963 and 1968 a 'second pair' would unsuccessfully attempt to settle on Speyside. In 1967 a landowner in Morayshire contacted the Society to inform them

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<sup>390</sup> 'The Sixty Ninth RSPB Annual Report, 1959' (1960) *Bird Notes* 29(4) [accessed at RSPB Sandy, The Lodge library]: 115.

<sup>391</sup> *ibid.*

<sup>392</sup> Waterston G (undated – presumably autumn 1959) 'Operation Osprey, 1959', a summary of the successful season at Loch Garten for the Watchers' Committee – RSPB SHQ Early Operation Osprey, Box d117, uncatalogued: 7.

<sup>393</sup> Balmer B (2016) *op cit.*: 71.

<sup>394</sup> Brettel J (2015) *op cit.*

<sup>395</sup> Anderson K (1995) 'Culture and nature at the Adelaide Zoo: at the frontiers of 'human' geography' *Transactions of the Institute of British Geographers* 20(3): 290.



of a 'third pair' that would soon become the second nest known to successfully produce young.<sup>396</sup> Early attempts to stretch the limits of personnel to cover a watch on the second pair show the RSPB lacked means or staff to protect these additional sites (see Chapter 4). A narrative began to emerge around the second pair's attempts to breed whereby the Society encouraged the public to stay away, or keep the details of its location to themselves. Instead, those interested in seeing ospreys should instead visit Loch Garten where birds were available to be freely enjoyed without the risk of disturbance.<sup>397</sup> In a similar fashion, when a landowner had reported the alleged existence of a pair of ospreys on his estate near Nairn in 1966 he had made it clear that he wished no protection at all, lest the presence of wardens in turn draw attention and visitors onto his property.<sup>398</sup> As a result, the report appeared unverified. By 1971, the senior warden at Loch Garten was asking of RSPB members that they relay any osprey sightings to him so that he could collate information on the re-colonisation and have either wardens or regional watchers investigate.

For these osprey pairs that would settle and be discovered at sites away from Loch Garten the primary means of their security was often a return to secrecy. When former osprey warden Roy Dennis was appointed the Society's Highland Officer from 1971, his annual 'Osprey Newsletters' demonstrated the material practices underlying such discretion.<sup>399</sup> Each nest was given a number, sometimes with a letter coding that ascribed it to a particular region, known to Dennis and those actively involved in checking or protecting that site on a more regular basis (the local landowner, estate factor or regional raptor study group).<sup>400</sup> In terms of the newsletter, such a tactic allowed a relational level of secrecy for each site, location known only to those directly involved in its protection or monitoring. One could

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<sup>396</sup> Letter from Dick Fursman, RSPB Speyside Representative, to George Waterston (25 May 1967), reporting on the status of known and possible osprey nesting sites – Early Operation Osprey, Box d117, uncatalogued.

<sup>397</sup> *The Osprey* (1-7 May 1964) A weekly bulletin of Speyside wildlife, produced for public by the local staff of the RSPB, vol.1 no.1 – RSPB SHQ, Early Operation Osprey Box d117, uncatalogued: 1.

<sup>398</sup> Letter from Dick Fursman to George Waterston (5 June 1966) 'Report of a Third Osprey's Nest' – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>399</sup> Annual Osprey Newsletters compiled by Roy Dennis (1976-1993) Issues for the years 1979-1982, 1991-1992 are missing – SOC, 'Raptors', Box 19.

<sup>400</sup> Notes from an interview and field excursion with Brian Etheridge, RSPB Highland Office, 21 July 2014; Dennis R (2008) op cit.: 129.

distinguish a nest (or nests) amidst more general reports of the community's status, thereby ensuring that individual confidences were kept even whilst the more general dimensions of the 'secret' – the presence of ospreys – *secreted* with the re-colonising presence of the birds across in new places.<sup>401</sup>

The Society's close guarding of information was not universally popular. In turn, the RSPB Council was quick to condemn the publication of any information that it felt might jeopardise the safety of rare birds.<sup>402</sup> A specific challenge to osprey secrecy came with the publication of a title in the *Caliologist's Series*: a privately produced series of books by 'collecting' publisher Oriel Stringer. Many of the books had been authored by known collectors and gave details on rare species. *The Osprey* listed map coordinates for over eighty nesting sites across Scotland, as well as accounts of raids on nests and a scathing commentary on the activities of the RSPB.<sup>403</sup> The foreword framed such revelatory intentions as aggressively democratic, proclaiming to the reader 'all wild birds are yours' and 'do NOT belong to a gang of pseudo-protectionists alone.'<sup>404</sup> In response, the RSPB strongly resisted the book's publication and unsuccessfully sought legal advice to bar its release of alongside other such 'egg-collectors' guides'.<sup>405</sup>

As the Society sought to secure the re-colonisation through secrecy, the spreading distribution of the osprey was also being mapped and secreted via other channels. The publication of this *Caliologist's* volume in the 1980s reveals something of the particular 'milieu of secrecy' in which Scottish ospreys had come to dwell.<sup>406</sup> To

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<sup>401</sup> Deleuze G and Guattari F (2013) op cit.: 337.

<sup>402</sup> For example see the opposition of RSPB council to the proposed publication of a map by the Highlands and Islands Development Board and to a book by a Mr Eric Hardy on 'The Birds of Scotland' for the reason that they were alleged to divulge the breeding location of rare species: see minutes from a meeting of RSPB Council (30 March 1977) RSPB Council Minutes March 1975-July 1981 – RSPB Sandy, Classmark 01.01.11.

<sup>403</sup> Pearson W (1987) *The Osprey, Caliologists' Series: No. 7*.

<sup>404</sup> Pearson W (1987) op cit.: 9.

<sup>405</sup> Interview with Guy Shorrock, op cit.; Available council minutes describe similar attempts to prevent the publication of a previous volume in this series, *The Red Kite*, with a similar lack of success: see minutes of from a meeting of the RSPB Conservation Committee (23 November 1983) RSPB Watchers Committee/Conservation Committee/Reserves and Research Committee Minutes Books 12: Minute Book, Conservation Committee, June 1978-March 1986 – RSPB Sandy, Classmark 01.01.11.

<sup>406</sup> Walters W (2015) 'Secrecy, publicity and the milieu of security' *Dialogues in Human Geography* 5(3): 287-290.

build from Foucault, osprey secrecy on Speyside had been practiced in relation to, and amidst certain environmental and societal 'givens'.<sup>407</sup> Many of these remained a concern when it came to protecting the other nest sites: ospreys nested in remote places where the application of the law and the surveillance of lawbreakers was difficult to maintain; human involvement at nest sites could be damaging; and those seeking more violent involvements would themselves operate with discretion. The protection of ospreys at a scale beyond Loch Garten – indeed of many rare species – involved the interplay between secrets of differing depth or transparency and the efforts to circumvent them. In 1968 the RSPB would employ a dedicated Enforcement Officer to advise the police on the implementation of bird protection legislation, and direct them towards particular matters of concern, acting as a form of 'expert backup' in matters of avian wildlife crime.<sup>408</sup> By the early 1970s, an Investigations Department had been established to monitor illegal activity and prosecute those continuing to collect eggs. In the wake of the 1971 robbery (discussed below), there was a palpable concern within RSPB Council that collecting was undergoing something of a resurgence.<sup>409</sup> By 1980, the Investigations team had compiled a 'blacklist' of known collectors totalling 500 allegedly active individuals.<sup>410</sup> Concerted efforts were made to 'get at the hard core of persistent offenders' through a more aggressive pursuing of prosecutions and convictions.<sup>411</sup>

In these ways, Loch Garten had come to play an important role in an emergent biopolitics. By 1969, the RSPB no longer considered its Operation Osprey in terms of objective-based species protection but as 'something quite different': 'a highly successful method of giving people controlled access to a very rare bird'. Such access was fast becoming 'an important principle in conservation' as a means to

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<sup>407</sup> Foucault M (2007) op cit.: 21.

<sup>408</sup> Robinson P (1982) *Bird Detective*.

<sup>409</sup> Minutes from a meeting of the RSPB Council (23 June 1971) RSPB Council Minutes June 1967-June 1971 – RSPB Sandy, Classmark 01.01.11.

<sup>410</sup> Minutes from a meeting of the RSPB Council (25 June 1980) RSPB Council Minutes March 1975-July 1981– RSPB Sandy, Classmark 01.01.11.

<sup>411</sup> Minutes from a meeting of the RSPB Conservation Committee (6 September 1978) RSPB Watchers Committee/Conservation Committee/Reserves and Research Committee Minutes Books 12: Minute Book, Conservation Committee, June 1978-March 1986 – RSPB Sandy, Classmark 01.01.11.

relieve the pressures on the environment and educate the public.<sup>412</sup> In more explicit terms, senior warden Dick Fursman had noted that the maintenance of public access to the ospreys at Loch Garten was important because ‘a pair on display’ might ‘help other pairs survive in peace.’<sup>413</sup> There is therefore a profound transition at work here, from protection for protection’s sake to protection for the purposes of display. The ospreys of Loch Garten were repositioned within an emergent apparatus of osprey biopolitics as more the means rather than ends of biosecurity efforts. Visitors were encouraged to encounter the ospreys at Loch Garten ‘with an eye toward their conspecifics’ nesting (or attempting to nest) elsewhere with less fanfare.<sup>414</sup> I characterise such an arrangement as a biopolitical scheme of partial revelation.<sup>415</sup>

The ospreys on Speyside were well known to the public and could be readily observed. This visibility, and the narrative that accompanied them – of a threatened and endangered species that had returned from extinction wrought by human persecution – legitimated the continued secrecy of other pairs. This was a ‘selective openness’: a strategic use of secrecy ‘there’ and visibility ‘here.’ Brian Balmer characterises such a relationship of secrecy between the military and the public visitors to the UK’s chemical weapons facility at Porton Down during the ‘open days’ organised during the Cold War. Maintaining such a regime of secrecy relied upon cultivating public trusting in the claim that secrets were necessary, and that keeping things hidden in *their* interest as much as the military’s. Showing the public a pair of ospreys, and trusting them with controlled access to the site ensured that the public trusted the idea that these birds were being protected for all. In this way visitors to the OP were being invited ‘to share the same values’ about osprey security and, as Balmer writes of Porton Down, ‘trust that what is hidden is being

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<sup>412</sup> Letter from Mike Everett, RSPB Scottish Office, to DA McKinley, researcher investigating Speyside tourism, Department of Geography, University of Edinburgh (21 August 1969) A response to the recipient’s request for details about ‘Operation Osprey’ – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued; Braverman I (2015) op cit.

<sup>413</sup> Letter from Dick Fursman to George Waterston (8 December 1966) concerning the future of ‘Operation Osprey’ on Speyside – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>414</sup> Braverman I (2015) op cit.: 69.

<sup>415</sup> Balmer B (2015) op cit.: 49; Holmberg T and Ideland M (2010) ‘Secrets and lies: “selective openness” in the apparatus of animal experimentation’ *Public Understanding of Science* **21**(3): 356.

hidden for the best of reasons.’<sup>416</sup> In the following section I describe the established operation that emerged, before discussing the form of osprey life that this kind of routinised involvement has produced at Loch Garten.

## **4. An apparatus for exhibition**

By putting the birds on display at distance the protection of the ospreys had become refigured within an RSPB narrative of bird protection that emphasised securing birds for the benefit of the nation.<sup>417</sup> In turn, public donations funded the RSPB’s on-going involvement at the site, producing and sustaining particular conditions under which the birds would return to breed. Here I reflect on the ‘three-way’ involvement between the public, birds and the RSPB that emerged and solidified at Loch Garten during the 1960s. I argue that Operation Osprey can be seen as a form of Foucauldian ‘apparatus’: a heterogeneous assemblage that was more territorialised, less open-ended, more repeatable, and enacted to achieve a particular strategic end of governance.<sup>418</sup> On Speyside, this apparatus cohered around the provisioning of the ospreys and their nest site for public consumption and, latterly, as a springboard for regional institutional involvement. Crucially, as I discuss in the final section, the Operation had become routinised in a manner that saw it function as a mechanism for ‘capturing’ osprey life into a field of particular relations.

### **Managing display at Loch Garten**

Opening the site to the public would increase the profile of both the ospreys and the RSPB in Scotland. In 1960, a purpose built sectional hut replaced the makeshift caravan arrangement as a public Observation Post (OP), replete with ‘a full range’ of RSPB leaflets, posters and literature for sale.<sup>419</sup> The opportunity to raise funds at the site was immediately recognised. Now running the Operation with applicants from the public, additional defences and the hiring of a team of senior and junior permanent wardens, six volunteers a week were needed to staff the hide and OP. Here they would keep watch over the birds as before, as well as being on hand to answer questions and direct visitors. In addition, teams of voluntary and permanent cook-caterers were recruited, occasionally the wives of wardens or permanent staff.

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<sup>416</sup> Balmer B (2015) op cit.: 49.

<sup>417</sup> ‘Ospreys Hatch Eggs Successfully in Scotland’ (undated – presumably June 1959) op cit.

<sup>418</sup> Legg S (2011) op cit.: 131.

<sup>419</sup> Waterston G (23 October 1959) ‘Operation Osprey, 1960: Some Thoughts on Plans’ – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 4

1960 proved even more successful than 1959 as the birds returned and to rear two more young. The OP collected £1400 in donations from over 20,000 visitors. Waterston was now confident the enterprise would soon become 'self-supporting' and was encouraged by the number of members that had been recruited.<sup>420</sup>

As the anecdotal introduction to this chapter makes clear, particularly in the project's early years, some visitors were unsure at times exactly what they were coming to see. To the amusement of wardens, many thought they were encountering a zoo animal. Visitors from America also appeared to express some bemusement at the fuss made over a species that was far more plentiful across the Atlantic.<sup>421</sup> The constitution and charm of the osprey's wildness was therefore significantly 'a question of place'.<sup>422</sup> For many, the fascination was the experience of seeing a rare species in the wild. This wildness was constituted as both a relational achievement of managed proximity and of a simultaneously performed separation of human and osprey.<sup>423</sup> A variety of sensitising devices could bridge the distance required to avoid disturbing either the birds or the image of their apparent wildness. Each was 'mutually free' to come and go, the OP was merely the space for one to encounter wild birds.<sup>424</sup> Humans did not dictate, but hoped that the birds would return each year.

Many of the same reasons the birds had proven 'too big' or 'charismatic' to keep secret made them ideal for display at a distance. These large, conspicuously marked birds spent the majority of their time during the breeding season on or around the as their young developed. In contrast to other species like the golden eagle (*Aquila chrysaetos*), which often left a motionless chick unattended whilst ranging and hunting across a large territory – ospreys would feed on or around the nest, defending it against intruders.<sup>425</sup> It was also the case that the osprey's breeding

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<sup>420</sup> Waterston G (undated – presumed autumn 1960) 'Ospreys in Speyside' A report on the successful 1960 season – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>421</sup> 'Operation Osprey: Roy Richards at Loch Garten' (1960) Audio tape. RSPB Sandy, Classmark 01.05.709.

<sup>422</sup> Brandin E (2009) op cit.: 414-416.

<sup>423</sup> Whatmore S and Thorne L (1998) op cit.: 435.

<sup>424</sup> Mitman G (1996) 'When Nature is the Zoo: Vision and Power in the Art and Science of Natural History' *Osiris* 11: 120.

<sup>425</sup> See Newton I (1979) op cit.

cycle demonstrated remarkable synchronicity with school holidays.<sup>426</sup> The birds demonstrated a certain degree of tolerance for human closeness enabling them to be viewed in the way that other birds might not.<sup>427</sup> This apparent consent to human proximity was, paradoxically, in contrast to the disturbance thesis that had justified human-bird separation through secrecy (something I develop in Chapter 5).

In the review of the project conducted in 1967, public display was recognised as the essential *modus operandi* of Operation Osprey, though it retained its purpose as a basic exercise in species protection.<sup>428</sup> By 1971, the observation post had been expanded twice to accommodate more fully the commercial and exhibition-focus of the Operation. In 1969, this was done by grafting on the spare forward hide – now no longer used to keep watch on a second pair – to function as a shop and storage area, an appropriate statement about the changes in Council priorities.<sup>429</sup> In 1973, the centre would be completely re-designed: additional interpretative panels were added to present the story of the osprey's return in a compelling fashion as visitors were directed through a one-way system that guided them through the narrative of bird protection and the osprey's demise and return. Additional improvements, like a mounted PA system, would allow wardens to manage and address larger crowds. Their role became primarily one of showing the birds to visitors, answering their questions, and promoting Society membership. In this manner, the centre would become a 'gateway' to avian appreciation.<sup>430</sup> This was a three-way involvement: the institution of the RSPB managed the site and presented terms upon which birds and the public encountered each other in an asymmetric and voyeuristic manner.

### **An established routine**

The Operation also took shape following the successes of 1959 and 1960 as a regular and repeatable enterprise now that it could be reasonably assumed that the birds would be returning to the same site. Each spring seasonal wardens and additional helpers arrived at the site, setting up the defences and visitor facilities in

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<sup>426</sup> Interview with Frank Hamilton, op cit.

<sup>427</sup> Brandin E (2009) op cit.: 423.

<sup>428</sup> Waterston G (28 January 1967) 'A review of "Operation Osprey" – DRAFT' – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>429</sup> Letter from Mike Everett, RSPB Scotland Office, to David Lea, RSPB Reserves Department, The Lodge (11 February 1969) 'Operation Osprey, 1969: OP/Sales Hut Problems' – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>430</sup> Braverman I (2015) op cit.: 65.

anticipation for the birds' return.<sup>431</sup> Each autumn these were dismantled. The statutory bird sanctuary bounds were renegotiated with the Seafeld estate in early 1960, and re-approved by the Scottish Home Office such that each year the arrival of the ospreys conjured forth a veil of legal protection; an immanent legal geography activated and de-activated by their appearance and departure from the nest.<sup>432</sup> Once gone, the hide structures and barbed wire remained awaiting to be plugged back into the assembled arrangements for guarding and displaying ospreys the following season. Militarised defences do not 'shape everything all of the time': some of the caravans hired for use by wardens were towed; the array of optics in the hide and OP went to other reserves over the winter to be put to other ends.<sup>433</sup>

The project became less an *ad hoc* exercise in species protection – one that borrowed equipment or called in favours to bolster the defences – and instead became a more repeatable and stabilised *apparatus* of security and display. This term, taken from Foucault, recognises the assembled and heterogeneous materiality of protection at Loch Garten, relying upon and repurposing a variety of devices, alongside the cultivation of particular human and avian subjectivities in line with a defined, strategic objective or aim.<sup>434</sup> The Operation in its earliest years had not been without strategy or objective of course; the clearly defined objective of securing the birds' survival had driven Waterston's efforts. But such a goal had been short-term, revised and cobbled together year to year until the success of 1959. With the realisation that the birds would return, and that both they and the public would cooperate with a controlled form of display, Operation Osprey solidified into what Foucault calls 'a machinic contraption', producing a particular visitor and RSPB involvement with wild birds to the benefit and understanding of a wider population.<sup>435</sup> This was an assemblage less affective of dis-order or emergent

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<sup>431</sup> Interview with Roy Dennis, former RSPB Highland Officer, 26 November 2013.

<sup>432</sup> A copy of the Wild Birds (Loch Garten Bird Sanctuary) Order 1960 (21 April 1960) – RSPB Sandy, Early Operation Osprey, Box d117, uncatalogued; Gold J and Revill G (1999) op cit.: 232.

<sup>433</sup> Enloe C (2000) *Maneuvers: The International Politics of Militarizing Women's Lives*: 4.

<sup>434</sup> See in particular the descriptions of Agamben G (2009) op cit.; and Foucault M and Gordon C (1980) op cit.: 194-208.

<sup>435</sup> Rabinow P and Rose N (2003) 'Foucault Today' in Rabinow P and Rose N (eds) *The Essential Foucault: Selections from the Essential Works of Foucault, 1954-1984* (New Press; New York): xvi.



difference as it was of 'order, striation, re-territorialisation, long-term effects and scaling' in its biopolitical strategy.<sup>436</sup>

For all that this was an established apparatus, the project did not remain static. Roughly 40,000 visitors were arriving each year by the end of the decade.<sup>437</sup> In 1972, owing from the publicity of a second nest robbery (see below) in 1971, this number breached 100,000.<sup>438</sup> With the increasing numbers (and profits) further on-site developments were sanctioned.<sup>439</sup> At the wardens' camp at Inchdryne, infrastructure likewise accrued: caravans – donated or purchased – housed the seasonal staff and acted as kitchen and dining area whilst volunteers slept under canvas. Sanitation facilities were improved and expanded. In turn, there were sojourns to the planning and estate offices in the region to affirm the legal status of the growing settlement.<sup>440</sup> Volunteer and staffing numbers were increased in the mid-1960s to cope with the guarding of a 'second pair' and the growing amount of visitors and administrative tasks. It became apparent in a 1967 review of the project that many of the older ex-military hands had dropped off from the project as it had become more routinised and visitor-focussed and with the vanishing of 'the glamour and excitement of the early days'.<sup>441</sup> Similarly, there were increasingly competing conservation projects and enterprises, each offering their own brand of rural-based masculine adventure.<sup>442</sup> With a few disruptive events aside, events at Loch Garten could unfold annually with little incident. The RSPB began to rely

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<sup>436</sup> Legg S (2011) op cit.: 129.

<sup>437</sup> Howie J (2 September 1970) 'Confidential, Operation Osprey' Totals of visitors, takings, donations and subscriptions for the season – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>438</sup> Leavett R (undated – presumed autumn 1972) 'Wardens Report, Loch Garten 1972' A summary report of the successful season – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>439</sup> Hamilton F (28 August 1973) 'Operation Osprey: Suggestions for Future Operations' A report concerning the impact of a new OP at Loch Garten and potential improvements – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>440</sup> Fursman D (4 September 1968) 'Loch Garten Nature Trail & Osprey Camp' A short report on plans for regional expansion via a nature trail and discussion of the planning permission required for the camp – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>441</sup> Waterston G (28 January 1967) 'A review of "Operation Osprey" – DRAFT', op cit.

<sup>442</sup> See the discussion of competition between the military and other 'exciting' career options (such as working offshore) and the effects on army recruitment in Enloe C (2000) op cit.; see the construction of a rural masculinity by way of military involvement in Woodward R (1998) 'It's a Man's Life!': Soldiers, masculinity and the countryside' *Gender, Place & Culture* 5(3): 277-300.

more on students, some with relatively little birding experience.<sup>443</sup> Within such conditions, the standing orders and proliferation of instructions for wardening and monitoring the birds were ever more essential to fashion these individuals into the subjects required to continue the defence of the site. The burden of annual administration ballooned: application forms, 'mini memos' and circulars allowed easier organisation of the nearly 500 names and addresses held on file by 1968.<sup>444</sup> A 'blacklist' ensured that those volunteers who proved more hindrance than help were not invited back in later years.

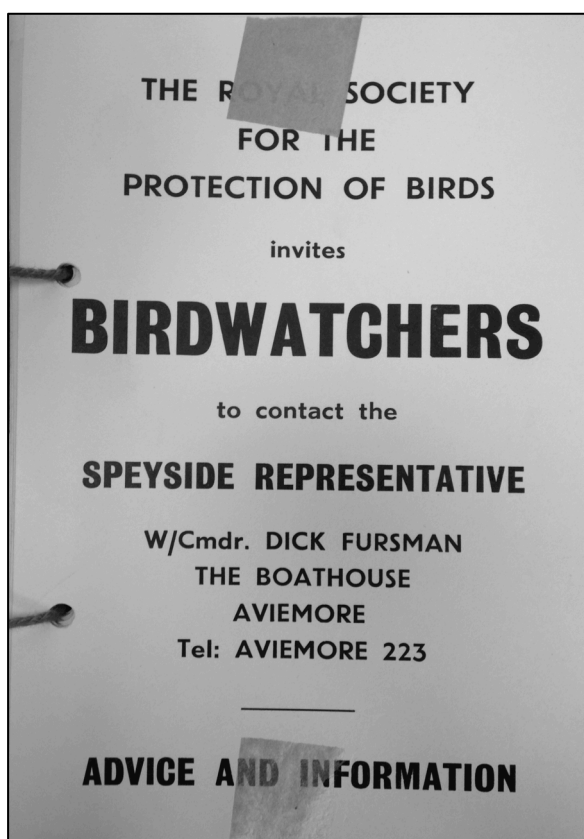


Figure 8: Example contact card to be displayed by local tourist venues advertising Dick Fursman as the RSPB's Speyside Representative, early 1966 - RSPB SHQ, 'Early Operation Osprey', d117, uncatalogued. Reproduced with the kind permission of the RSPB.

<sup>443</sup> Memo from Harvey Burton, senior warden of 'Operation Osprey', to Peter Conder, RSPB Secretary; George Waterston; and Roy Dennis, RSPB Highland Officer (3 June 1971) 'Robbing of Osprey Eyrie at Loch Garten on Night of 16<sup>th</sup>/17<sup>th</sup> May' - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued; Leavett R (undated - presumably autumn 1972) 'Wardens Report, Loch Garten 1972', op cit.: 6.

<sup>444</sup> Waterston G (2 December 1971) 'Harvey Burton and 'Operation Osprey' 1972' A short memo outlining Harvey Burton's duties and the administration required to run the 'Operation' - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

An ever-enhanced tourist experience reflected the anxiety on the Society's part of having to compete for tourist attentions with a variety of developments in the region and along the A9. Loch Garten was the gateway for an institutional involvement in the shaping of the region. The Scottish Development Department's report on the Cairngorms, published 1967, demonstrates the political and economic will for major tourist development on Speyside during the 1960s.<sup>445</sup> The annual repetition of Operation Osprey positioned the RSPB at the heart of these regional transformations, and it began to look outward from the nest of a single species. In 1964, wardens produced and distributed a highly successful newsletter containing updates on the birds' progress and information on how to responsibly enjoy the region's wildlife.<sup>446</sup> In late 1965, senior warden Dick Fursman was promoted to RSPB Speyside Representative. This role was intended to be more visible (Figure 8), framing him as the go-to contact for any visiting birdwatcher. In this role, he was tasked 'to do everything possible to lessen the impact of tourism and development upon the wildlife of the area and to further the objectives of the Society in Speyside.'<sup>447</sup> Fursman began to travel away from the osprey camp, showing films and giving talks about the Society's work across Invernesshire. Waterston also had Fursman work to partner the RSPB with tourist developments, like the Aviemore Conference Centre, to make sure the ospreys were at the heart of the area's tourist image.<sup>448</sup> Fursman investigated more ambitious proposals too, including unrealised plans for a static nature trail and information centre at Loch Garten.<sup>449</sup> Fursman himself appears conflicted in this role – favouring the more hands on work of osprey protection to membership promotion. Opposing more ambitious plans for

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<sup>445</sup> Technical Group on the Cairngorm Area of the Eastern Highlands of Scotland, Scottish Development Department (1967) *Cairngorm Area: Report*.

<sup>446</sup> *The Osprey* (1964) A weekly bulletin of Speyside wildlife, produced for public by the local staff of the RSPB, vol.1, 13 issues – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>447</sup> Letter from Cecil Winnington-Ingram, RSPB Administrator, to Dick Fursman, cc. Scottish Representative (18 March 1966) An outline of the objectives of the Speyside Representative – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>448</sup> Winnington-Ingram C (24 April 1967) 'RSPB Publicity on Speyside' A short report on the relationship between the RSPB osprey centre and other tourist developments in the area – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>449</sup> Fursman D 'Loch Garten Nature Trail' A short report on the possible development of a nature trail and tourist centre enclosed in a letter from Dick Fursman to George Waterston (1 October 1968) – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

ever-more static infrastructure, he favoured a mobile Operation that could shift and adapt if the birds chose to move site.<sup>450</sup> By this time, however, the RSPB worked to ensure that the birds ‘behaved’ correctly, remaining aligned with their display and enclosure.<sup>451</sup>

The Operation had therefore evolved into a repeatable and routine practice of species protection, one amenable to the ends of displaying the birds. Yet, the birds might at times threaten to dwell in ways that did not align with their protection. In the final section I want to examine how this apparatus of osprey protection also served to ‘entrap’ the birds.<sup>452</sup> I characterise this as a form of osprey life that, following Deleuze and Guattari, is ‘captured’ into a particular block of becoming, shaped ultimately in relation to human interests.<sup>453</sup>

## **5. A captured form of osprey life**

Notwithstanding the agency of individual birds, I want to make the unlikely case that osprey life at Loch Garten is best understood as ‘captured’: that its positioning within this routinised and strategic apparatus of rare bird conservation makes it an object of display and, ultimately of control. For Giorgio Agamben, expanding Foucault’s notion of the apparatus, such an entity is known by its ‘capacity to capture, orient, determine, intercept, model, control, or secure the gestures, behaviours, opinions, or discourses of living beings.’<sup>454</sup> What Foucault terms an apparatus is something that acts upon animal beings by taking their beastly nature and rendering it an object of more predictable and governable involvement.<sup>455</sup> In what follows, I consider how Operation Osprey produces a particular form of osprey life and how the placement of these birds has led to moments of extraordinary involvement. As such, I consider Operation Osprey in terms of a process of capture that, following Deleuze and Guattari in their notion of ‘blocks of becoming’, proliferates a site-specific version of osprey life by propagating its

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<sup>450</sup> Letter from George Waterston to Dick Fursman (6 February 1967) ‘Operation Osprey, Proposed New Observation Post’ A letter concerning proposals for more static infrastructure at Loch Garten – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>451</sup> Brandin E (2009) op cit.: 418.

<sup>452</sup> Legg S (2011) op cit.: 131

<sup>453</sup> Deleuze G and Guattari F (2013) op cit.: 9.

<sup>454</sup> Agamben G (2009) op cit.: 14.

<sup>455</sup> See also Srinivasan K (2014) op cit.

involvement with particular humans in particular ways.<sup>456</sup> Ospreys returning to Loch Garten by the affects of a nesting geography (see Chapter 6) are drawn into a nexus of human relationships, becoming what they are in relation to material conditions asymmetrically produced and influenced by humans.<sup>457</sup> I develop this line of argument in other chapters, but here I focus on just two examples: firstly, the denial of the birds' capacity to make 'daft' choices; and, secondly, the affective value of the ospreys at the site as a motivation for particular caring or harmful interventions.

### **Loch Garten ospreys and 'daft' choices**

The more elaborate nature of the Operation, becoming as it was an apparatus of public-facing conservation, saw Waterston anxious that any osprey presence at Loch Garten must continue to correspond with conditions favourable to their protection and display. Any potential expression of osprey life that jarred with their public image – a tendency to nest or perch out of view of the hide for example – had to be minimised. These birds were therefore 'agentially subjectified' by such an approach to management: that is, the conditions and character of osprey life were acted upon by humans and made to align with the necessities and objectives of a broader, institutionalised osprey biopolitics.<sup>458</sup>

Like other raptor species, ospreys will sometimes desert a nest site if it has proven unsuccessful, whether due to a failure on the part of the eggs to hatch (see Chapter 4) or to some kind of disturbance. As a consequence they will construct another nest a short distance away.<sup>459</sup> The birds first nested at the current Garten site as an expression of this repeat or frustration nesting behaviour in 1958 after they were robbed (I discuss this phenomena in more detail in relation to the 'nesting geographies' that I propose in Chapter 6). Waterston was understandably wary that an acute incident of disturbance could scare away the birds from their successful site; his desire to protect against this occurrence underlay much of the protection efforts I have described. As wardens were at pains to stress to the early visitors

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<sup>456</sup> Deleuze G and Guattari F (2013) op cit.: 282.

<sup>457</sup> Anderson K (1997) op cit.

<sup>458</sup> I draw this term from the work of Srinivasan K (2013) 'The biopolitics of animal being and welfare: dog control and care in the UK and India' *Transactions of the Institute of British Geographers* 38(1): 106-119; (2014) op cit.

<sup>459</sup> See Hardey J *et al* (2009) op cit.: 151.

described in the introduction, the ospreys were not zoo animals held in captivity and were free to nest elsewhere. However, Operation Osprey's increasingly static infrastructure relied upon the birds' tenacity to this successful and stable nest structure.

In practice, site-bound investments meant that the RSPB had to intervene to maintain both the nest structure and encourage the birds to continue using it. At times there was an 'unruliness' of osprey life; a refusal to be confined to the 'spaces in which humans may seek to secure them'.<sup>460</sup> Two stories of weather-wrought damage at the nest in 1963 and 1966 illustrate precisely this point. During both of these years, high winds destroyed the nest at Loch Garten during the birds' incubation period, in each case shattering the eggs within. The birds then deserted their usual nest and began to build new structures elsewhere. In both cases discussions over the appropriate action to take reached the same conclusion: the new nests had to be destroyed or removed to encourage the osprey back to the eyrie that lay within this apparatus of protection and display.<sup>461</sup> In the case of 1963, even more work was needed to make sure the birds returned the following year. When the ospreys arrived back at Loch Garten the following April, the wardens' first monthly report describes how the female initially showed more interest in the remains of one frustration structure. It was not until an event of unspecified 'disturbance' at that site that she was prompted to move back to the traditional eyrie a few days later.<sup>462</sup> In 1966, one frustration nest had to be immediately removed by wardens because of its location outwith the sanctuary area.<sup>463</sup> Here was a desire to coax the birds back into alignment with the geographies of their legal protection. The larger of the remaining nests lay a little east of the wind-damaged main eyrie, and the project's junior warden expressed the view that this should be removed

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<sup>460</sup> Buller H (2008) 'Safe from the Wolf: Biosecurity, Biodiversity, and Competing Philosophies of Nature' *Environment and Planning A* **40**(7): 1593.

<sup>461</sup> Waterston G (8 August 1963) 'Operation Osprey 1964: Some Thoughts on Administration & Policy' - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 3.

<sup>462</sup> Weir D (30 April 1964) 'Operation Osprey 1964, Monthly Report No. 1: 27<sup>th</sup> March to 30<sup>th</sup> April' (typed copy) - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>463</sup> Letter from David Grant, junior osprey warden, to George Waterston (1 June 1966) 'Operation Osprey: Monthly Report' - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

because it was 'too far from the Forward Hide to be safe from a skilful "egger"'.<sup>464</sup>  
The following January, senior warden Dick Fursman pulled it down with a rope.<sup>465</sup>

These examples demonstrate that osprey life and osprey display were made to be contiguous. In other words, osprey dwelling at Loch Garten under the protection of the RSPB demanded that the birds were aligned with the logic of their public exhibition. Their becoming was circumscribed by their 'capture' into the stable apparatus of the Operation, within which unruly forms and locales of dwelling were inhibited. The Society would actively intervene in instances where osprey ecology sparked an emergent form of avian existence that deviated from the visual needs of the apparatus. More minor involvements of this kind were also sanctioned: when the effects of wind damage opened up alternative perches out of view of the OP, wardens were dispatched to remove the offending perch. In these ways, the space in which osprey nest life played out was made to comply with the viewing needs of the general public.<sup>466</sup>

By contrast, however, ospreys nesting elsewhere dwelt under no such restrictions. In 1969 a nest was discovered near Kinveachy, west of Boat of Garten, constructed by a new pair of ospreys in a particularly conspicuous position near to the public road. In discussions with Fursman on Speyside, Waterston opted against 'taking out' the site in an attempt to try to encourage the birds to move somewhere less vulnerable to disturbance.<sup>467</sup> Indeed, he expressed the opinion that the RSPB had 'reached the stage that Ospreys nesting in 'daft' sites will just have to take their chance!'<sup>468</sup> Thus, with the osprey biopolitics that had emerged, individual ospreys were *differently involved* with humans. Whilst birds nesting away from Garten had

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<sup>464</sup> Letter from David Grant to George Waterston (10 November 1966) "'Operation Osprey": FINAL REPORT' – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 2.

<sup>465</sup> Letter from Dick Fursman to George Waterston (1 February 1967) – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>466</sup> Letter from Dick Fursman to Julian Knowles, RSPB Scotland Office secretary (5 October 1969) 'Binoculars for Op. Osp '70' – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 2; Whatmore S and Thorne L (2000) op cit.

<sup>467</sup> Letter from Dick Fursman to George Waterston (19 October 1969) A response to a query from Waterston in a previous letter (on 13 October) concerning a nest at Kinveachy – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>468</sup> Letter from George Waterston to Dick Fursman (22 October 1969) A response to the previous letter from Fursman and his suggestions regarding the Kinveachy eyrie – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

the freedom to make ‘daft’ choices, those nesting under the RSPB’s protection were more restricted.<sup>469</sup> Here, the vital work of being on show within a biopolitics of partial secrecy meant that the ospreys lived more contained and bounded lives, inhibited from flourishing into more open-ended forms of difference.

### **Valuable ospreys at Loch Garten**

There are similarities, however, between zoo life and forms of osprey life at Loch Garten. Each was offered some form of ‘blessed’ existence. At certain moments ospreys have been freed from ‘harsh realities’ that they might otherwise have encountered. Matthew Chrulew characterises the zoo in these terms as an ‘apparatus for the production of paradise’, or an ‘Eden-machine’, that whilst holding captive seeks to mitigate both the effects of captivity and to insulate the animal against the elements, predation, injury and disease.<sup>470</sup> Certainly as a result of their capturing into the machinic apparatus of Operation Osprey, certain ospreys have been subject to interventions of care and assistance that other birds could not have experienced.

In the introduction I described how in 1985 the male collided with the tree and attempts made to treat his dislocated wing. Meanwhile fish was delivered to the female on her nest and her eggs were artificially incubated. A chick that would in all likelihood not have survived was successfully fostered into a nest near Kingussie. Earlier, in 1974, there is a record in the logs recorded in the forward hide of a chick falling from the nest one evening. It was retrieved by those wardens on duty, kept in a box and fed whitebait over night, and then replaced back into the nest the following morning.<sup>471</sup> Earlier still, during the second successful season, in 1960, the male disappeared during the rearing of the chicks. In the tense few days before a second male osprey joined the nest and began to provide fish in the place of the missing male, Waterston wrote of having considered obtaining fish from a local

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<sup>469</sup> See also the comparative discussion of dog’s lives in Britain and India by Srinivasan K (2013) op cit.: 116.

<sup>470</sup> Chrulew M (2011) op cit.: 145.

<sup>471</sup> Entry from the Loch Garten log for the 1974 season, vol. 3 of 3 (24-25 July 1974) – RSPB Sandy, uncatalogued.



merchant and 'making arrangements to sling fish up to the eyrie to appease the hungry chicks!'<sup>472</sup>

One could interpret these more extraordinary involvements, exceeding the terms of merely *protecting* the ospreys against human disturbance, as the result of an ethical involvement with the birds arising from sustained and close attention. Haraway has written of encountering feral cats in her barn and finding herself 'hailed' into ethical concern by their convivial frolicking, signs of (perceived) affection and the obligations that arise from beings having become entangled 'once touch has been initiated'.<sup>473</sup> Similarly, one might consider becoming ethically 'affected' by the plight of birds in certain situations: a contingent and contextual ethical awareness that arises from 'just being there' with the capacity to offer care for vulnerable others.<sup>474</sup>

I see no need to disavow this interpretation. But it is clear too that such involvements cannot be separated from a biopolitical reasoning that frames these birds on display as *worthy* of such intervention, a value founded on visibility and accessibility. The birds nesting at Loch Garten certainly had commercial value to the Society, generating an increasingly large amount in donations (£2500 in 1966, nearly £7000 by 1968) that could go towards funding the project and its developments.<sup>475</sup> But they also had a less tangible *affective* value as vehicles for a conservation message and broader institutional involvements in the region. As the Garten birds had become the means rather than the ends of an osprey biopolitical project, the idea of feeding them fish fingers – a wardens' joke that satirised the ignorance of visiting tourists – almost became a reality. Stewart Taylor, the former manager of the reserve who authorised the involvements of 1985, today reflects with uncertainty over whether such intervention would have occurred were the birds *not*

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<sup>472</sup> Waterston G 'Ospreys in Speyside' A Brief Report on

<sup>473</sup> Haraway D (2008) op cit.: 280.

<sup>474</sup> Darling J (2010) 'Just Being There...': Ethics, Experimentation and the Cultivation of Care' in Anderson B and Harrison P (2010) *Taking Place: Non-Representational Theories and Geography* (Ashgate, Surrey): 241-260; see also the discussion of caring for golden eagles by Michel S (1998) op cit.

<sup>475</sup> Figures for 1966 taken from a letter from Dick Fursman to George Waterston (7 September 1966) – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued; figures for 1968 taken from Fursman F (undated – presumed autumn 1968) 'Strathspey – August' Fursman's Loch Garten reserve report for the final month of the osprey breeding season – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

subject to such sustained public attention, interest or engagement.<sup>476</sup> These birds would become 'characters' in the public imagination and it is likely that a decision not to intervene would be treated with hostility (as, indeed, the author's more recent experience with the RSPB's online forum demonstrates).<sup>477</sup>

### **A site for dares and vengeance**

Any machinic apparatus that aims to capture and manage life is invariably 'imperfectly functioning'.<sup>478</sup> In his own conceptual encounter with the Foucauldian apparatus, Deleuze argues that such attempts to order, govern or produce certain spaces and subjects simultaneously generate new sites and vectors of resistance, potential becoming and possible fracture.<sup>479</sup> The value of the birds to the RSPB and their efforts to manage the osprey's return to Scotland through Loch Garten meant that the threat of more violent extraordinary involvements became magnified. Just as the site had become a way to act upon and secure a burgeoning population of birds it also became a site to act through in resistance *against* the institution of bird protection. I have already described how Waterston had interpreted the motive behind the robbery in 1958 as 'a desire to do us in the eye'.<sup>480</sup> This was taken as evidence early on that those who wished the *Society* ill might seek to act out their displeasure upon the *birds*.

In 1971, the nest was robbed for a second time. There had been problems with the alarm system that senior warden Harvey Burton – Fursman's replacement after his retirement in 1969 – had been unable to fix. Two inexperienced, first-time wardens were on watch together on the windy night of 15<sup>th</sup> May when two men crossed the marsh, scaled the tree, and took the eggs.<sup>481</sup> Those on duty only realised a raid was in progress when the female rose up in alarm, and though they rushed out to apprehend the assailants, the collectors had already escaped into the night, breaking one of the eggs on their descent. Although the alleged culprits were later caught in

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<sup>476</sup> Interview with Stewart Taylor, op cit.

<sup>477</sup> See the discussion of Candea M (2010) op cit.: 242.

<sup>478</sup> Chrulew M (2011) op cit.: 145.

<sup>479</sup> See Deleuze G (1992) op cit.

<sup>480</sup> Waterston G (24 September 1958) 'Operation Osprey – 1959', op cit.: 3.

<sup>481</sup> See Dennis R (1971) 'Report on the Theft of Loch Garten's Osprey's Eggs' Confidential report with copies to George Waterston and secretary Peter Conder – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued; for an account from the 'egger's' point of view see Pearson W (1987) op cit.: 29-30.

returning to their car in the early hours of the morning, as they did not have the eggs about their person all they could be charged with was unauthorised entry onto the Garten reserve and the possession of meadow pipit eggs found under the drivers' seat.<sup>482</sup> Many years later, two osprey eggs labelled 'c/2, Loch Garten' would find their way, via an inherited collection, into the possession of the National Museums Scotland (Figure 9).



**Figure 9: Photograph of the osprey eggs taken from the nest at Loch Garten on 16th May 1971, now in the collection of National Museums Scotland. Taken by the author, July 2014.**

The second robbery prompted Waterston and others to reflect more starkly on the changed character of the Operation, as described above, from a tightly wound military exercise to a more routine project of display. There was a sense of complacency; security concerns had receded a little.<sup>483</sup> The consultations over

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<sup>482</sup> Waterston G (undated – presumed autumn 1971) 'Bring Back the Birch!' A short report on attempts to prosecute the apprehended nest robbers – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued; 'Fine in Osprey Case' (March/April 1972) *Birds* 4(2) [accessed at RSPB Sandy, The Lodge library]: 34.

<sup>483</sup> Interview with Mike Everett, former assistant to George Waterston and later head of Species Protection at the RSPB, 17<sup>th</sup> October 2013.

improving the defences now proceeded in a different manner. Frank Hamilton, Waterston's imminent replacement as the RSPB's Scottish representative, contacted the Inverness-shire crime commission and the Home Office, followed by a number of private security firms. It was a marked departure from the militarised line of inquiry through a network of 'old boys' that Waterston had pursued in 1958 and 1959.<sup>484</sup> New defences included anti-climb paint, additional barbed wire, and two sophisticated alarm systems. Also a marker of the changed purpose of the site – and the weight of the ospreys in the public's imagination – Hamilton was able to negotiate many of these defensive additions at a reduced price – or even for free – in exchange for permission granted to the firms to mention their unusual commission in advertising.<sup>485</sup> This strategy backfired when one firm, Chubb Alarms Ltd, issued a press release on the experimental system of motion detecting geophones that they had installed, describing exactly how the system worked.<sup>486</sup> Secrecy around the exact mechanisms of osprey security was evidently in tension with the promise of publicity.

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<sup>484</sup> Letter from R Dawson, Detective Chief Inspector of the Home Office Crime Prevention Centre, Police Headquarters, Stafford to Frank Hamilton, RSPB Scottish Office (29th July 1971) 'Protection of Ospreys at Loch Garten' A response to Hamilton's enquiries on the 4<sup>th</sup> and 6<sup>th</sup> of July regarding advice on how best to protect the nest – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>485</sup> Letter from J. Nevin, Manager, Security Division at Camrex Special Coating Services Ltd to Frank Hamilton (21<sup>st</sup> September, 1971) A letter discussing the application of Camrex anti-climb paint to the osprey eyrie – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued; Letter from Frank Hamilton to Mr L Shorrocks, General Manager, Shorrocks Security (28 September 1971) A letter in response to that received on 20 September regarding the cost of the Shorrocks security system – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>486</sup> Letter from Frank Hamilton to Russell Leavett (16 October 1972) Discussion of a recent report by Leavett on the two newly installed alarm systems and the Chubb press release – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

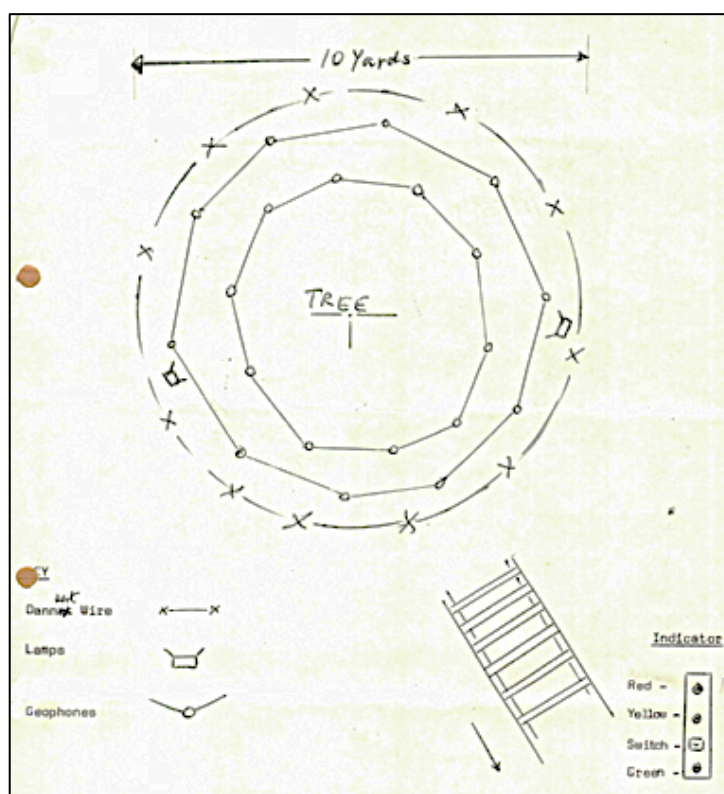


Figure 10: Schematic layout of the proposed 'geophones' and barbed wire defences to be installed by Chubb Alarms Ltd, enclosed with a letter from GM Hasler, Manager, Special Security Sales, Chubb Alarms Ltd to Frank Hamilton (29th November 1971) Reporting on proposals for upgraded Loch Garten security - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued. Reproduced with the kind permission of the RSPB.

However, some, like senior warden Harvey Burton, were heavily resistant to any overly-technocratic improvements to the defences. He emphatically argued:

'THE MORE SOPHISTICATED AND ELABORATE THE ALARM SYSTEM, THE MORE SEEMINGLY INVIOLEABLE THE EYRIE, THE MORE ONE IS LIKELY TO ATTRACT PERSONS WHO FOR A DARE WILL CHALLENGE THE STRENGTH OF OUR SECURITY SYSTEM'<sup>487</sup>

There was recognition that by improving the defences at Loch Garten, one could simultaneously reduce the military excitement of protecting the birds whilst increasing the pull of the nest for those seeking a challenge. Adding defences around the tree in ever more concentric layers of material security (Figure 10) was

<sup>487</sup> Memo from Harvey Burton, senior warden of 'Operation Osprey', to Peter Conder, RSPB Secretary; George Waterston; and Roy Dennis, RSPB Highland Officer (3 June 1971) 'Robbing of Osprey Eyrie at Loch Garten on Night of 16<sup>th</sup>/17<sup>th</sup> May', op cit.

also to layer a sense of prestige for anyone who could take the eggs.<sup>488</sup> The ospreys had a value deriving as much from their status as monument to both the 'evils' of egg-collecting and the righteousness of bird protectionism as they did in terms of the donations they inspired towards the RSPB. The birds were the affective vehicles for a narrative of their 'heroic, human-led, recovery.'<sup>489</sup>

In 1964, the wardens returned in March to find that someone had sawn part way through the tree during the winter, presumably in the hope the winter storms would bring it down.<sup>490</sup> The trunk was subsequently bolted together to ensure it could still support the nest, which it did until 1979. However, the cut proved an ideal habitat for a fungus that, despite efforts to save a tree already suffering from the number of branches the Society had removed, would soon die.<sup>491</sup> The birds apparently sensed this instability, moving their nest onto an adjacent, and equally visible, pine in 1980 – where it remains today.<sup>492</sup> It was later discovered the cut had likely been made by a disgruntled poacher from Abernethy, angry that the presence of the birds had brought a blanket of protections that served to keep them out of a landscape in which they had long hunted.<sup>493</sup>

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<sup>488</sup> See likewise the reflections of Dennis R (2008) op cit.: 137.

<sup>489</sup> Anderson K (1995) op cit.: 290.

<sup>490</sup> Weir D (30 April 1964) 'Operation Osprey 1964, Monthly Report No. 1: 27<sup>th</sup> March to 30<sup>th</sup> April', op cit.

<sup>491</sup> G.W. Humphries, Alfred Saville & Sons Chartered Surveyors, Wimborne, Dorset to David Lea, RSPB Reserves Department, The Lodge, Sandy (11 December 1967) 'Operation Osprey' A letter discussing the die-back of the nest tree and the possibility of arresting it – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>492</sup> RSPB (1991) *The Ospreys of Loch Garten*. RSPB & Dalwhinnie, Edinburgh [Accessed at RSPB Sandy, the Lodge library]: 4.

<sup>493</sup> Interview with Roy Dennis, op cit.





**Figure 11: Photograph of repairing the Loch Garten nest in the wake of an attack on the tree with a chainsaw, spring 1986. Taken by and reproduced with the permission of Stewart Taylor.**

In a more extreme instance, the nest tree was again the subject of a retaliatory attack in the early months of 1986. This time the motive came from the Society's attempts to pursue more widely its investigations against the activities of the egg collecting fraternity. One notorious egg collector 'at the extreme end of the profession' decided to saw through the branches supporting the eyrie in response to what he perceived to be a vendetta on the part of RSPB agents against him and his family.<sup>494</sup> Condemned by most, some collectors did sympathise with the sentiment of 'freeing' the ospreys from their annual capture, arguing that the birds should 'be left to nest where they wish, and not be the subject of profit.'<sup>495</sup> The damage would

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<sup>494</sup> Cole A and Trobe W (2011) *The Egg Collectors of Great Britain and Ireland: An Update*: 114; a full account of these events is given in Watson C (2009) *Colin Watson: His Story*.

<sup>495</sup> Pearson W (1987) *op cit.*: 24-25.

subsequently be discovered and, with the help of an Aberdonian tree surgery firm, a platform was reconstructed and is still in use today (Figure 11).<sup>496</sup>

In this way, the site bears the scars of these contested and even violent involvements catalysed by the presence of the ospreys and their would-be protectors. These scars are openly on display; indeed, they constitute part of the dramatic story of Loch Garten for the visitor.<sup>497</sup> The nest tree and surrounding landscape comprise a material archive of these moments of conflict and the value placed in the ospreys for the work their display performs to secure other birds in other places.<sup>498</sup> Ospreys at Loch Garten, as well as being captured and subjectified into the logics of display, were simultaneously caught up in the turbulent moral geographies of ornithology, environmental management and enclosure. Sometimes they – and through them, the RSPB – felt the wrath of those practising a more visceral kind of enthusiasm for bird life.<sup>499</sup> As a result, exhibition, intervention, and on-going involvements with present humans (see Chapter 5) together produce a contingent and site-specific expression of osprey life at Loch Garten: one that is managed *for* display and constrained in its capacities for unruliness.

## 6. Conclusion

When in 1975 the Seafield estate offered Loch Garten and the surrounding lands for sale, the RSPB bid and had accepted an offer for the property. Launching the biggest appeal for funds in the Society's history, donations were encouraged to 'save a place for the osprey' alongside the acquisition of other reserves, including those where another species, the avocet (*Recurvirostra avosetta*), had also returned from extinction in 1947.<sup>500</sup> For Waterston, the purchase of the reserve was 'the culmination of [his] dreams, safeguarding this unique habitat for perpetuity.'<sup>501</sup> In securing and ensuring that this space remained open for the osprey's return each year, Loch

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<sup>496</sup> Interview with Stuart Taylor, op cit.

<sup>497</sup> See Brown P (1962) op cit.

<sup>498</sup> See Lorimer H (2010b) op cit.: 257-259.

<sup>499</sup> See Cole E (2016) op cit.

<sup>500</sup> 'Save a Place for the Osprey' (undated – late 1970s) Leaflet advertising the purchase of Loch Garten with an appeal for donations. RSPB Sandy, Classmark 01.02.22.

<sup>501</sup> Letter from George Waterston to Philip Brown, former RSPB Secretary, and Ros Edwards, agent for Heinemann Publishing (9 March 1979) discussing correspondence over the publication of Brown's book *The Scottish Ospreys: From Extinction to Survival* – SOC, Correspondence and text of *The Scottish Osprey*, George Waterston Archive 5, Classmark 3.16, Shelf 2/4, Box 289.



Garten performed an important function, not only securing osprey life at this site but extending a wider geography of osprey biopolitics to a community of around 13 identified pairs by this time.<sup>502</sup>

The exhibition of osprey life at Loch Garten aimed to extend a veil of protective secrecy over other pairs. In a routinised apparatus of display, secrecy was the 'grease' within the broader biopolitical project.<sup>503</sup> But it had also produced a contingent set of conditions at Loch Garten under which the birds would come to dwell and exist. The RSPB would acquire further areas of Abernethy forest, eventually purchasing the land that adjoined Loch Garten with an area of reserve that extended to the Cairngorm plateau in 1991.<sup>504</sup> As a result, the security involvements at Loch Garten enabled the establishing of a permanent institutional presence on Speyside, enabling broader projects of environmental conservation, including extensive woodland habitat management, to take place.

This chapter has aimed to narrate the story of Operation Osprey, attending to the changing involvements of security, secrecy and display. Secrecy on Speyside initially saw the extension of a successful strategy of bird protection to the osprey, aiming to remove the birds from potentially harmful involvements with humans. However, the realisation that there were more 'enemies' of the birds (potentially) present in the region, with their own secretive plans to encounter the nest, provided the incentive for a more militarised expression of that secrecy. Defences subsequently solidified with the material additions of barbed wire and telephone lines, and the bodily organisation of wardens into a defensive force. The difficulty of keeping the birds a secret – with antagonists sharing their location and the geographical lives of ospreys expressed and visible across a broader area – saw the eventual decision to open Loch Garten for controlled public viewing. I have argued that this opening signified the move to a different relationship with secrecy characterised as 'partial revelation'.

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<sup>502</sup> Data taken from Dennis R (January 1976) Osprey Newsletter No. 4, details of the 1975 osprey breeding season in Scotland – SOC, 'Raptors', Box 19.

<sup>503</sup> Holmberg T and Ideland M (2010) op cit.: 366.

<sup>504</sup> Interview with Richard Thaxton, op cit.

There were of course, multiple publics encountering the birds. As the opening anecdote shows, the avid birdwatcher was joined by the ignorant and the curious. By exhibiting ospreys at Loch Garten, sating the public's curiosity and exposing them to an educational and ethical message about the merits of bird protection, the RSPB could ensure that other re-colonising pairs might be left in peace. This was the basis for a biopolitics of osprey conservation that saw the ospreys under sustained protection become the means rather than the ends of securing a rare species.

As I have also argued, Operation Osprey, with its changing function from militarised defence to display, solidified into a routinised 'apparatus' of conservation that was re-assembled each year to achieve the same strategic ends, by way of fostering a range of subjects and involvements. The visitor was encouraged to engage the osprey as a wild animal, and to appreciate it on ethical terms at a distance. The wardens were moulded into the useful bodies required to protect and monitor the nest. The RSPB was able to extend its institutional influence into a developing region by way of the ospreys' continued presence.

The nesting ospreys have been captured into an apparatus that has accorded them significance and value over other birds (as well as their conspecifics) within an ethical and practical conservation imaginary. In turn, they have been subject to more extraordinary involvements as a result of their incumbent status as representative of a wider osprey nature. In this way, the site of their conservation has also proved 'a frontier of social change in more-than-human relationships', demonstrating an active struggle between different kinds of avian futures and ethics.<sup>505</sup> These birds have at times had to be 'disciplined' in their geography and encouraged to stay within the bounds of the apparatus whilst other ospreys elsewhere are freer to make 'daft' choices. As a result of being captured into this arrangement, these ospreys are also accorded particular value and significance, and been subject to caring interventions where others might not have been. They have also been imbricated into the more violently emergent becomings of vengeance and daring enthusiasm. Their nest tree, and indeed their comportment, is a reflection of a history of such involvements at the site. This chapter has sought to account for

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<sup>505</sup> Srinivasan K (2014) op cit.: 514.

and analyse several transitions at the site over the first two or so decades of the project: from secrecy to openness, from ends to means in biopolitics, from shifting to static, and from a freer form of birdlife to one captured into a specified and aligned becoming. In the following chapter I continue my concern with the involvements of osprey biopolitics. I discuss how the protection and monitoring of a small population of birds could prove far more awkward in the face of less tangible threats.

# Chapter 4

## Chemical Concerns

*Pesticides, ospreys and awkward biopolitics on Speyside*

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### 1. Introduction

**April 1963:** a second pair of ospreys began building a nest in Rothiemurchus forest. George Waterston jubilantly reported the news to RSPB secretary Philip Brown whilst raising two concerns.<sup>506</sup> First, Waterston was afraid he would not have enough 'manpower' to effectively defend a second nest: guarding Loch Garten was already difficult given warden and volunteer absences. He proposed sending small detachments to the second nest on 24-hour shifts as a way of compensating for limited personnel, aiming to maintain something akin to the protection at Garten. His second concern was that initially the ospreys had chosen a site near Whitewell: family-residence of former egg-collector and RSPB watcher, Desmond Nethersole-Thompson. Given the acrimony between Nethersole-Thompson and the Society, Waterston had been nervous. Desmond had since moved away but his son, Brock, remained. He explained to Brown that Col. Iain Grant, owner of Rothiemurchus estate, had visited the young man and that Brock appeared committed to crofting his land rather than continuing his father's rebellious ways. Therefore, Waterston reasoned, perhaps there was nothing to fear in this regard concerning the protection of this second nest. Brown assured Waterston he was 'damn near willing to shut Sandy down' if extra staff could ensure an additional successful osprey pair.<sup>507</sup> On Waterston's second concern, he was more guarded. Brown had served on the RSPB Watcher's Committee during the late forties and early fifties as the working relationship between the Society and Desmond Nethersole-Thompson deteriorated and was more wary of accepting his kin as a neutral presence within Society plans for protection.

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<sup>506</sup> Letter from George Waterston to Philip Brown (20 April 1963) 'Secret: Second Pair of Ospreys Building Nest' – RSPB Sandy, Classmark 01.05.709.

<sup>507</sup> Letter from Philip Brown to George Waterston (24 April 1963) 'Personal and Confidential' A response to Waterston's previous letter concerning the discovery of a second pair of ospreys on Speyside – RSPB Sandy, Classmark 01.05.709.

It was fortunate, then, that the early attempts of these ospreys to construct an eyrie were thwarted by gales. They soon moved to the Forestry Commission plantation at Inshriarch, south of Aviemore (see Figure 1).<sup>508</sup> The new site proved difficult to defend: the terrain limited a hide's close situation with a covered approach and the birds, less familiar with human presence, appeared skittish. Given the limited resources to protect them, wardens encouraged secrecy about their location, and urged the public to visit Garten rather than seek them out.<sup>509</sup> Regardless of their urgings, numerous trespassers – who by chance or design happened across the ospreys at Inshriarch – had to be turned away. Collectors thankfully never troubled the site, but to the Society's annoyance local hoteliers soon spread the word of its existence.<sup>510</sup> When on the 8<sup>th</sup> May the eyrie and eggs of the Loch Garten ospreys were destroyed in storms, Waterston devised plans to provide controlled access to the second pair after the hatch to manage public presence near the nest.<sup>511</sup> The necessity of such measures was reinforced when, on 14<sup>th</sup> May, several curious birdwatchers approached the site. Rising abruptly from the nest, the female broke at least one egg in her distress.<sup>512</sup>

A temporary observation post would soon be erected and it was paramount to ensure there were no further disturbances. Wardens counted down the days until – and then beyond – a predicted hatch date, but no chicks appeared and the agitated female sat tight. Eventually, a licensed warden ascended the nest-tree, retrieving a single egg to be sent to the Nature Conservancy (NC) for analysis.<sup>513</sup> For those aware of worrying declines amongst ospreys in America – and the emerging plight of other raptor species at home – it was suspected the second pair's breeding failure signalled the presence of a more insidious threat to avian life than any egg-collector. The imperceptible object of this concern was organochlorine pesticides.

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<sup>508</sup> Entry from the Inshriarch osprey log for the 1963 breeding season, vol. 1 of 1 (3 May 1963) – RSPB Forest Lodge, uncatalogued microfiche, 1963 Inshriarch log, Sheet 1.

<sup>509</sup> *The Osprey* (1-7 May 1964) A weekly bulletin of Speyside wildlife, produced for public by the local staff of the RSPB, vol.1 no.1, op cit.

<sup>510</sup> Dennis R (16 May 1963) Bird watchers at the Osprey eyrie: Report for RSPB – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>511</sup> Letter from George Waterston to all volunteer wardens (17 May 1963) 'Operation Osprey 1963: Notice to Wardens' Describes early season failure and possibility of putting the second pair on display – RSPB Sandy, Classmark 01.05.709.

<sup>512</sup> Dennis R (16 May 1963) Bird watchers at the Osprey eyrie: Report for RSPB, op cit.

<sup>513</sup> See Waterston G (1963) 'Operation Osprey, 1963' *Bird Notes* 30(9) [accessed at RSPB Spandy – The Lodge library]: 275-278.

In this chapter I explore the attempts to simultaneously secure against and comprehend the threat of pesticide contamination to ospreys on Speyside. The business of their protection is situated within an environment already marked by other forms of more extensive, risky and uncertain 'modes of securing'.<sup>514</sup> The responses of Waterston and the RSPB at Loch Garten described in the previous chapter – the tactics, materials and subjectivities of a militarised bird protectionism – aimed to secure the birds and their nest against direct threats of disturbance. However, this project of biosecurity was itself immersed within the historical and environmental geographies of a broader 'industrial-military complex' that in post-war decades had seen the British environment subject to a 'chemical revolution'.<sup>515</sup> The toxic pesticide compounds developed during wartime were deployed against the threats that insect life posed to agricultural production. The overspill of the chemical use would confront the RSPB with less-tangible material threats to osprey life. This chapter concerns the attempts to secure against a threat that manifested itself within the environment and the avian body, actualising certain pathological effects once concentrations surpassed ambiguous 'tipping points'.<sup>516</sup>

The story of the ill-fated 'second pair' of ospreys, attempting to nest on Speyside between 1963 and 1968, is one of continual frustration. It allows consideration of the role of lethal materials in producing 'insalubrious settings for organic beings' and the wider gamut of nonhuman agencies that mark the historical involvements affecting conditions for osprey life.<sup>517</sup> I explore the practices by which humans attempted to protect the ospreys against the creeping violence of chemical involvements. Narrating these fraught attempts to insulate poorly understood birds against poorly understood materials I aim to explore the dimensions of the more awkward biopolitics at work on Speyside. The osprey population in Scotland, comprising two pairs, could neither be easily rendered as a population (in terms of the statistical and demographic apparatus that Foucault explores) nor managed as such. The number of constitutive individuals was too small to permit the harmful or

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<sup>514</sup> Hinchliffe S (2007) op cit.: 107.

<sup>515</sup> See Carson R (1965) op cit.

<sup>516</sup> Hinchliffe S *et al* (2013) op cit.

<sup>517</sup> Egan M (2008) 'Toxic Knowledge: A Mercurial Fugue in Three Parts' *Environmental History* **13**(4): 636-642.

sacrificial interventions that are required when governing life.<sup>518</sup> In the absence of any definable osprey population the biopolitics of securing osprey life against the pesticide threat appears more awkward. It operates through the bodies, involvements and geographies of other creatures in a way that is always uncertain, never settled, and continually revealing of gaps in knowledge of the osprey. As a result, those attempting to protect the birds struggled with the status of pesticides as unfixed 'matters of concern'.<sup>519</sup>

This chapter situates the protection of the osprey within a broader geography of pesticide use. Firstly, I argue that in order to trace the material geographies of pesticides on Speyside involved an understanding of the osprey as immersed in the vital flows of that environment. Since the birds could not be killed and examined other, less valued, forms of life and found carcasses presented proxy bodies through which to investigate the presence of lethal materials. I then discuss how, within a working hypothesis that pesticide contamination caused a pathological 'de-territorialising' of the osprey organism, attempts were proposed to insulate against these effects.<sup>520</sup> These plans expose the limits to human knowledge of the osprey and the attempts to fill such gaps with inference from other species. They also reveal the status of the osprey within the RSPB's protection plans as an erstwhile 'black box'.<sup>521</sup> Finally, I describe how a great deal of uncertainty remained, chemicals and their interactions with the osprey body endured as unresolved matters on Speyside and elsewhere. As NC ecologist Derek Ratcliffe sought to develop a causal model for the impacts of pesticide contamination on birds of prey, Waterston sought to apply his and others' work to the ospreys' experience to understand the second pair's failings. However, the involvements of an awkward biopolitics delimited

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<sup>518</sup> For a discussion of the concept of biopolitics and the apparatus of state surveillance and governance see Foucault M (1978) op cit.; Foucault M (2003) *Society must be Defended: Lectures at the Collège de France, 1975-1976*; and Foucault M (2004) op cit.; for a discussion of such practices in the field of nature conservation see Lorimer J (2006) op cit.; (2015) op cit.; for discussion of the 'violent care' bound up with conservation biopolitics see Braverman I (2015) op cit.; Chrulaw M (2011) op cit.; Srinivasan K (2014) op cit.; van Dooren T (2014) op cit.

<sup>519</sup> Latour B (2004d) 'Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern' *Critical Inquiry* 30(2): 225-248.

<sup>520</sup> Deleuze G and Guattari F (2013) op cit.

<sup>521</sup> Latour B (1987) op cit.

what could be done to small and endangered species populations and, as a consequence, what could be reliably known about them.

The chapter will begin with a brief discussion of the military-industrial complex of pesticide production, situating the breeding failures of the second pair of ospreys to attempt nesting on Speyside within the wider context of chemical contamination. I then explore the means by which osprey conservationists on Speyside sought to determine the presence of pesticides, eventually devising to insulate the contents of the nest from the possible affects of these materials. In the final section, I discuss the difficulties of determining a causal link between osprey nesting failures and DDT to emphasises the difficulty of determining the effects of chemical contamination in the absence of an affected 'population' to act upon and secure.

## **2. Militarised geographies of toxicity**

When the ospreys failed to breed in 1963, despite efforts to minimise disturbance, George Waterston and the RSPB had to consider the possibility that there was another kind of disruptive presence within the birds' environment. The organochlorine pesticides could disrupt the biological mechanisms of avian reproduction from *within* the bird's body. When the test results for the retrieved Inshriach egg were returned in March 1964, the presence of the chemical dichlorodiphenyltrichloroethane (DDT) was confirmed, including its metabolite dichlorodiphenyldichloroethylene (DDE), at concentrations of 3.60ppm.<sup>522</sup> The protection of these rare returning raptors had thus become connected with a reckoning of the post-war practices of securing space for agricultural production. Here I want to explore how pesticides arrived in Speyside, situating Operation Osprey within a broader geography and network of associations with laboratories, militarised industry, and risky materials designed to kill undesirable life forms, before expanding on the awkward biopolitics this entailed.

### **The military-industrial complex of pesticides**

The infiltration of organochlorine chemicals into the environment of Speyside constituted the overspill of a post-war 'industrial-military complex' of biosecurity,

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<sup>522</sup> The test results from eggs taken from the second pair between 1963 and 1965 are tabulated in Waterston G (1966) op cit.: 40.



emerging in wartime and spreading into the civilian sector.<sup>523</sup> American economic geographer Ann Markusen characterises a 'military-industrial complex' as the assemblage of wartime sponsorship for research, innovation and development within the civilian industrial sector, such that the work of non-military industry becomes increasingly associated with production of technologies serving military needs.<sup>524</sup> Post-conflict, industries remain 'militarised': they are enrolled in the production of military commodities and dependant upon both military funding and contracts. The dispersion of toxic chemicals across Speyside was a result of the social, economic and environmental geographies of these associations. Thus, within the milieu of wartime experience that incubated the beginnings of Operation Osprey's militarised protection scheme I also situate the origins of a pervasive and damaging threat to osprey (and bird) life.

The entry of DDT into the nest of the ospreys at Inshriach connected those birds with the historical plight of the Allied forces fighting on both African and Pacific fronts during the Second World War. In these hot and humid environments soldiers, labourers and prisoners of war succumbed to insect-borne diseases like typhus and malaria. Learning a 'dismal lesson' from high death tolls by typhus during the First World War, domestic chemical industries were tasked to provide more effective means of controlling the vectors of disease.<sup>525</sup> Insect bodies are difficult to manage: their small size, swarming numbers, morphological and habitat diversity, and their mobility on land or air makes them evasive of regulation.<sup>526</sup> A 'persistent' pesticide with 'a wide spread of action' was required, prompting a militarised urgency for innovations in toxicity.<sup>527</sup> The 'miracle chemical' DDT had actually been first synthesised in 1874, via the chemical substitution of hydrogen atoms in a carbon-hydrogen molecule with chlorine. However, it was a Geneva-based firm that established its potency against insects in 1943 via laboratory trials

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<sup>523</sup> I take the phrase 'military industrial complex' term from the work of Markusen A (1991) 'The military-industrial divide' *Environment and Planning D: Society & Space* 9(4): 391-416 and following its use in feminist literatures, particularly those attendant to militarization, ecofeminist and material-feminist concerns, including Enloe C (2000) op cit.; Krupar S (2013) op cit.; and Seager J (1993) op cit.

<sup>524</sup> Markusen A (1991) op cit.

<sup>525</sup> Russell E (1999) 'The Strange Career of DDT: Experts, Federal Capacity and Environmentalism in World War II' *Technology and Culture* 40(4): 776.

<sup>526</sup> See Clark N (2013) op cit.: 18.

<sup>527</sup> Russell E (1999) op cit.: 775.

that appeared to suggest it did little in the way of collateral damage. Soon standard issue, as a concentrated solution DDT was sprayed over swathes of wetland harbouring malarial mosquitos.<sup>528</sup> Combined with new technologies of aerosolised dispersion, it met the material needs of the military in both its resilience and broad-ranging effectiveness. Its application was soon celebrated after field successes quelling Typhus outbreaks in Naples during the winter of 1943-44.<sup>529</sup>

Using pesticides to cleanse an area of insect life was a profound departure from biosecurity strategies that sought to defend life by way of policed 'borderlines': for example, the use of quarantined space to separate out healthy and contagious populations.<sup>530</sup> Instead, toxic materials affected whole environments in ways that diminished their very capacity to sustain forms of life that dwelt within them. This was an approach to both biosecurity and warfare that had 'fatefully matured' on the battlefields of the early twentieth century. On 22<sup>nd</sup> April 1915, the German army deployed chlorine gas at Ypres on the Western front against Franco-Canadian infantry, with devastating results.<sup>531</sup> This new form of warfare, for philosopher Peter Sloterdijk, signified a fundamental juncture in the character of conflict. The use of toxic chemicals to take life shifted the sights from an enemy combatant's body or infrastructure to their surroundings.<sup>532</sup> By virtue of one's dwelt connection to the environment – through vital functions such as respiration, drinking or eating – life could be taken. The 'trans-corporeality' of the body – its porous constitution in and through material flows, exchanges and circulations with the outside – became the route to defeat.<sup>533</sup> Following the success of these weaponised compounds chemical industries grew. Potent toxins were developed for application against pest species by the same logic. Insect's bodies took in toxic substances simply by living, but the collateral build up of deadly matter in the environment, including that inhabited by the ospreys on Speyside, would enact a slower violence against the other creatures

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<sup>528</sup> Discussed in detail in Sheail J (1985) *Pesticides and Nature Conservation: The British Experience 1950-1975*.

<sup>529</sup> Russell E (1999) op cit.

<sup>530</sup> Hinchliffe S et al (2013) op cit.: 532.

<sup>531</sup> Tucker R (2012) "War and the Environment" in MacNeill J and Mauldin E (eds) *A Companion to Global Environmental History* (Wiley Blackwell: Oxford): 328.

<sup>532</sup> Sloterdijk P (2009) 'Airquakes' *Environment and Planning D: Society & Space* 27(1): 41-57.

<sup>533</sup> Alaimo S (2010) *Bodily Natures: Science, Environment and the Material Self*.

that dwelt there.<sup>534</sup> This harm was not acutely felt immediately; rather, it lingered and accrued over decades, hidden from view. When other creatures sickened and died, ecologists would begin to conjure its mercurial presence by way of water and soil samples, or the recovered bodies and eggs of birds.<sup>535</sup>

### **A militarised solution applied at home**

Immediately following the war, some military and civilian scientists were wary of sanctioning DDT for domestic use without substantial further testing.<sup>536</sup> The tolerance of the reported instances of negative environmental affects that exceeded the killing of insects had a geography: the risks accepted on the front during conflict were less permissible at home. But farmers were eager to apply pesticides to meet the demands of post-conflict consumption. DDT's success at controlling insects during wartime was the perfect advertisement. For Cynthia Enloe, the militarisation of society occurs in part through the naturalising of military materiality in the everyday, with military apparatus and technologies repackaged to offer 'common-sense solutions' to non-military problems.<sup>537</sup> It is in this vein that Edmund Russell describes how Americans embraced the post-war application of DDT, reflecting a longer history of assuming 'technological war heroes would prove equally adept at solving [...] problems on farms and in homes.'<sup>538</sup> DDT and other chemicals were quickly plugged into the assembled infrastructures of agricultural production in Britain, with little knowledge or concern of what these materials might prove capable.

Other chemicals were similarly adopted widely as general insecticides and decontaminants. These included the 'cyclodienes' dieldrin and aldrin. Dieldrin in particular was effective in solution as a sheep dip – one means by which the compound entered into ecological circulation on Speyside. Previous organic-based dips had to be reapplied throughout the breeding season of the disease-carrying blowfly to protect sheep. DDT and dieldrin-based dips protected herds with just a

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<sup>534</sup> Nixon R (2011) op cit.

<sup>535</sup> Egan M (2008) op cit.: 639.

<sup>536</sup> Russell E (1999) op cit.

<sup>537</sup> Enloe C (1983) op cit.: 10.

<sup>538</sup> Russell E (1999) op cit.: 775.

single application, saving time, labour and money.<sup>539</sup> When no immediate impacts from increased pesticide use were forthcoming, the quantities applied increased and both persistence and blanket effectiveness became selling points rather than considerations. Synthesised compounds had initially been enrolled into existing legislation for pesticides in both the UK and USA, pre-dating such inert materials with radically enhanced toxicity. As a result, the use of DDT and other substances was effectively unchecked with regulation 'impotent to control their dangers'.<sup>540</sup> The appearance of new chemicals exceeded attempts to determine their dangers or even more prudent methods of application. Organochlorines were liberally applied across the UK from 1946 onwards. In the 1950s, government working parties aimed to investigate the risks posed by pesticides to humans and formulate appropriate legislation. The resulting Agriculture (Poisonous Substances) Act (1952) prescribed strict regulations for handling highly toxic compounds, but did not regulate DDT or dieldrin. Their usage continued unabated as further working groups in 1954 and 1955 concerning the contamination of foodstuffs and impacts on wildlife proved inconclusive.<sup>541</sup>

Seeds dressed with pesticides and the widespread spraying of crops saw more and more of the avian environment saturated with the toxic residues of 'corporate biopower', realigning human and animal life in the name of food security and industrial capital.<sup>542</sup> On Speyside, there is evidence that during the 1960s chemicals were applied in the interests of estate managers, crofters and foresters. On the Seafield estate, Rotenone (an organic poison) was added to lochs, killing pike in preparation for a restocking of trout for the purposes of fishing.<sup>543</sup> Sheep farmers in the region utilised chemical treatments for their livestock and the pinewood plantations, such as at Inshriach and Glenmore, were sprayed with organochlorine

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<sup>539</sup> Advisory Committee on Poisonous Substances used in Agriculture and Food Storage (1964) *Review of the Persistent Organochlorine Pesticides*.

<sup>540</sup> Ross B and Amter S (2010) *The Polluters: The Making of Our Chemically Altered Environment*: 45-6.

<sup>541</sup> Sheail J (1985) op cit.

<sup>542</sup> Nally D (2010) 'The biopolitics of food provisioning' *Transactions of the Insitute of British Geographers* 36(1): 37-53.

<sup>543</sup> Letter from Dick Fursman to George Waterston (23 November 1968) Mention of the use of 50 gallons of Rotenone to clear Avielochan of pike - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

solutions to control pests.<sup>544</sup> Therefore, osprey life as it was beginning to emerge protected at both Inshriach and Garten did so in an environment saturated with the residues deposited by the overlapping projects and practices of agricultural biosecurity.

### **3. Continuing Failures on Speyside**

As Michael Egan argues, characterising the process of amassing what he terms 'toxic knowledge', '[t]he history of toxic environments is largely reactionary in nature'.<sup>545</sup> The extent and severity of organochlorine contamination only became apparent once efforts were made to detect its presence. In this section I begin from the realisation – on Speyside and elsewhere – that organochlorine pesticides were affecting toxic environmental conditions for raptor species like the osprey. Attention turned to the materiality and capacities of DDT and other chemicals to involve themselves in the bodies of birds as a disruptive presence that might either kill or delimit the host's ability to reproduce. The reactionary history of Speyside's toxic environment saw the RSPB attempt to determine the spread and concentration of toxicity in the osprey's habitat. As I argue, attempts to detect lethal compounds were worked through an awkward biopolitics of osprey life that precluded the invasive investigation of the birds themselves. Instead, the agents of the RSPB aimed to sense the presence of contaminants through the bodies of other creatures that had either been recovered or were deemed less valuable to conservation. Such a strategy reflects a burgeoning understanding of osprey life within conservation as immersed and involved in the materiality of its surroundings.

#### **DDT as a matter of concern**

In 1964, the second pair returned and attempted to breed at a new site at Balnеспick, near Loch Insh (see Figure 1). A watch was set and the Society's local wildlife newsletter, *The Osprey*, encouraged local residents and visitors not to seek out the birds or share their location.<sup>546</sup> As in 1963, minor instances of disturbance occurred

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<sup>544</sup> Letter from Douglas Weir, osprey warden 1964 and RSPB research staff Speyside to George Waterston (30 November 1964) Reporting on the use of toxic substances on Speyside and the sighting of a snowy owl – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>545</sup> Egan M (2008) op cit.: 636.

<sup>546</sup> *The Osprey* (1-7 May 1964) A weekly bulletin of Speyside wildlife, produced for public by the local staff of the RSPB, vol.1 no.1, op cit.

following the circulation of information about the site (again, by a local hotelier), yet the birds still incubated to term. In familiar scenes, it was another agent that had seen the eggs fail to hatch.<sup>547</sup> Preliminary analysis suggested the embryo had died around 17 days into incubation, and that toxic contaminants were present.<sup>548</sup> Further analysis of an osprey pellet taken from Balnespick revealed definite traces of dieldrin.<sup>549</sup>

These osprey failures alongside the testable presence of pesticides extended a picture of Britain that had been becoming clear to the RSPB over the previous half-decade or more. By 1964, DDT and other compounds were no longer universally hailed as miracle chemicals and a raft of scientific investigation and popular debate had politicised these entities. Such materials were reframed as matters for debate and concern.<sup>550</sup> DDT and pesticides took on the status of 'risky things': 'more interesting, variegated, uncertain, complicated, far reaching, heterogeneous, risky, historical, local, material and networky' in their materiality, affects and capacities to potentially inflict lasting environmental degradation.<sup>551</sup> Declines in various bird species were highlighted and associated with the creeping geographies of toxic dispersal, beginning in Southern England's arable heartlands and slowly moving northwards during the 1950s.<sup>552</sup>

Since the end of that decade, the RSPB had become vocal in campaigns to delimit the use of pesticides given the lethal impacts on bird species at home and abroad.<sup>553</sup> During the same decade the use of seed 'dressed' with the cyclodiene insecticides was made controversial as wildfowlers and hunters reported rapidly increased mortality rates amongst their grain-eating quarry. The NC established its Toxic

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<sup>547</sup> Fursman R, Weir DN and Grant A (30 May 1964) 'Operation Osprey, Monthly Report No. 2' A report prepared for George Waterston on the second month of the osprey season – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>548</sup> *The Osprey* (27 June-3 July 1964) A weekly bulletin of Speyside wildlife, produced for public by the local staff of the RSPB, vol.1 no.9 –. RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>549</sup> Letter from George Waterston to Douglas Weir (5 March 1965) 'Chemical Analysis of Osprey pellet' – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>550</sup> I deploy this term as developed by Bruno Latour across sever discussions, specifically Latour B (2004d) op cit.; Latour B (2005a) op cit.; and Latour B (2005b) op cit.

<sup>551</sup> Latour B (2005a) op cit.: 11.

<sup>552</sup> Ratcliffe D (1963) 'The status of the Peregrine in Great Britain' *Bird Study* 10(2): 86.

<sup>553</sup> Jamieson C (2012) *Silent Spring Revisited*.

Chemicals and Wildlife section in 1960 and later that same year, the RSPB issued a joint report with the British Trust for Ornithology (BTO) highlighting the impact of dressed seeds upon birds. These chemical concerns coalesced with a peak in avian death during 1961. A voluntary ban on the use of certain chemically treated grains was adopted thereafter.<sup>554</sup> The BTO and RSPB continued to publish on the impacts of pesticides through the 1960s.<sup>555</sup> In 1963, the British government convened an Advisory Committee on Poisonous Substances used in Agriculture and Food Storage in response to such health concerns and the realisation that organochlorine residues were present in the bodies of the human populous. These compounds deployed to control the spread of undesirable life were making themselves known as deeply uncertain yet ‘vital players in the world’.<sup>556</sup> The addition by humans of pesticides into particular ecological assemblages made surprising, lethal gatherings and connections between nonhumans possible.<sup>557</sup>

Of highest concern was the chemical stability and mobility of compounds like DDT and dieldrin. Inert, they could remain in soils, water tables and bodies for decades, eventually surpassing harmful levels, whether or not they had been applied in modest doses. The toxicity of organochlorines, therefore, was less a matter of their initial introduction in unsafe quantities (though this was undoubtedly true in many cases). Rather, it was born of a failure to conceptualise how toxicity might emerge as a result of the much longer afterlives of an initial dose. It is in this vein that Nicky Gregson and others argue that the hazardous capacities of asbestos are – to follow the material theorising of Tim Ingold – processual, emergent and unfixed.<sup>558</sup> Like asbestos fibres, pesticides could move between bodies, changing their properties; they could conjoin with new actors in new assemblages, affecting surprising outcomes. What such compounds did not do was simply *disappear*.<sup>559</sup>

The ‘intricate dance’ of organochlorines in the environment – their capacity to circulate through bodies and ecologies without breaking down – was the central

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<sup>554</sup> Sheail J (1985) op cit.

<sup>555</sup> “Editorial” (1964) *Scottish Birds* 3(2): 57-72.

<sup>556</sup> Bennett J (2010) op cit.: 4.

<sup>557</sup> On the potential for human activity to generate the conditions for nonhuman ‘communications’ see the discussion of mercury pollution in Egan M (2008) op cit.: 641.

<sup>558</sup> In particular, see Ingold T (2007) op cit.

<sup>559</sup> Gregson N, Watkins H and Calestani M (2010) op cit.: 1067.

matter for their status as concerning.<sup>560</sup> In her influential and affective polemic *Silent Spring*, Rachel Carson Carson drew attention to the situated affects of toxic chemicals.<sup>561</sup> Her account wove together both the expert and folk knowledges found across laboratory reports, field observations and oral testimonies. Compounds like DDT, causing deteriorations to the heart at doses of 3ppm in small mammals and birds; and dieldrin, around forty times the toxicity of DDT when absorbed through the skin, circulated amidst ecologies as persistently stable and toxic. Carson's account attends to chemicals' materiality, particularly as she describes their additive effects as a result of what ecologists have since termed 'trophic magnification'.<sup>562</sup> Creatures at the most dense points of connection within an ecology's food web could eventually accumulate bodily concentrations of these inert compounds at magnitudes thousands of times greater than original doses.<sup>563</sup> For a species such as the osprey, chemicals could build up in the body by way of birds' imbrication amidst the dwelt meshworks constituting the 'fabric of life'.<sup>564</sup> Consumption patterns and predator-prey relations served to funnel stabilised metabolites up through trophic levels as 'the arrangement of various intensities' affected both 'unpredictably mobile fault lines [and] energetic currents'.<sup>565</sup> Once ingested, for example, DDT would metabolise into the more stable compound, DDE, which consolidated as an inert mass within bodily fat stores. Here, DDE could build to high concentrations, slowly and continually released into the body, contaminating lactic secretions and egg yolk. Unfortunately for the osprey, the effects of trophic magnification appeared to be particularly pronounced in fish-eating species.<sup>566</sup> Rather than breaking down or passing through them, DDT and its metabolites accumulated in osprey bodies.

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<sup>560</sup> Bennett J (2005) op cit.: 454

<sup>561</sup> Carson R (1965) op cit.

<sup>562</sup> Newton I (1979) op cit.: 233-234.

<sup>563</sup> See Ratcliffe D (1963) op cit. for a discussion of this effect in relation to the peregrine falcon; see Carson R (1965) op cit.: 56-59, for a situated example of this effect in relation to the population of Western Grebes found at Clear Lake, California, and their almost total demise by 1960 as a result of the build up of extreme concentrations of DDD following its addition at a low concentration to the water in 1954 and 1957 to eliminate a pest specie of gnat.

<sup>564</sup> Carson R (1965): 58.

<sup>565</sup> Bennett J (2010) op cit.: 60.

<sup>566</sup> Newton I (1979) op cit.



Carson's work argued strongly against the use of compounds so poorly understood in terms of their effect upon the environment. This uncertainty, to use Latour's phrase, was 'made public' through both her writing, the advocacy of organisations such as the RSPB, and the dead bodies of poisoned wildlife.<sup>567</sup> Such uncertainty was also admitted in the Committee for Poisonous Substance's published report. Here, the authors acknowledged that, despite the 'considerable experimental work' done to assess such compounds' safety, many of the hazardous outcomes since recorded could not have been simulated in a laboratory.<sup>568</sup> What appears here, then, is a bizarre twist on the goals of the burgeoning ecological movement that had sought to establish and managed designated reserves as vast 'open-air laboratories' for the study of natural phenomena.<sup>569</sup> The environments (and inhabiting species) of Britain, America and elsewhere had been subject to a great 'collective experiment' in the use of DDT and other chemicals: the true agential capacities of toxic materials had only become known once they had entered into more general contact and circulation with other beings.<sup>570</sup>

The conclusion of the Advisory Committee's report was to recommend voluntary bans on cyclodiene-based fertilizers and sheep dips, and to limit seed dressings to the winter months. Yet in the committee's eyes the collective experiment of DDT had provided only 'circumstantial evidence' regarding its impacts upon birds of prey.<sup>571</sup> It felt there was 'no evidence [...] these deposits do any harm.'<sup>572</sup> Conservationists, however, felt differently. Only a single egg was recovered for analysis from Balnespick in 1964. Later inspection of a regular feeding perch revealed fragments of eggshell in the birds' castings, suggesting that they had eaten the other eggs. Waterston was unsettled by this 'abnormal and pathological behaviour'. He attributed such activity, in accordance with the theorising of NC ecologist Derek Ratcliffe, to the possible 'physiological upset produced by sub-lethal

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<sup>567</sup> Latour B (2005a) op cit.

<sup>568</sup> Advisory Committee on Poisonous Substances used in Agriculture and Food Storage (1964) op cit.: 1

<sup>569</sup> Toogood M (2008) op cit.: 118-137.

<sup>570</sup> Latour B (2004c) op cit.

<sup>571</sup> Advisory Committee on Poisonous Substances used in Agriculture and Food Storage (1964) op cit.: 27.

<sup>572</sup> Advisory Committee on Poisonous Substances used in Agriculture and Food Storage (1964) op cit.: 24.

doses of organo-chlorine poisons.<sup>573</sup> Desiring to establish the extent of Speyside's contamination, he sought to deploy the limited methods available to him to sense the presence of lethal materials there.

### **Sensing contaminants on Speyside**

From 1963 onwards, Waterston and his agents – under his direction in correspondence with the Society's research biologists at Sandy – began attempts to quantify the extent of a pesticide presence within the osprey's environment. To inform this work Waterston was drawing upon the scientific investigations of other British and American ecologists who had begun their own monitoring programmes in response to substantial declines within larger osprey and other raptor populations.<sup>574</sup> Particularly on the northeast coast of the USA, recorded osprey numbers had plummeted in correlation with increasing organochlorine contamination. The numbers of breeding pairs in Connecticut, for example, were calculated to be in decline by around 30% annually, since the late 1950s. Comparisons with more stable osprey communities elsewhere revealed those areas where breeding rates had sharply fallen tended to be those where the birds' bodies and eggs exhibited far higher concentrations of DDT and its metabolites.<sup>575</sup> Certainly then, by the mid-1960s, it was recognised that the declines in breeding numbers observed could be attributed to increasingly prevalent, yet sub-lethal, chemical loads.

For Waterston and the RSPB, seeking to determine the levels of contamination on Speyside, there were limits to the kinds of interventions that could be made. In America, those studying the decline of ospreys had taken eggs from declining populations for testing and performed elaborate egg-transfer experiments (discussed further below), ascertaining both levels of environmental toxicity and their correlations with breeding failure. Waterston and his wardens had no such access to a large osprey population. None of the eggs laid in Scotland could be

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<sup>573</sup> Waterston G (1964) 'Operation Osprey, 1964' *Bird Notes* **31**(6) [accessed at RSPB Sandy, The Lodge library]: 199.

<sup>574</sup> Letter from George Waterston to Douglas Weir (5 March 1965) 'Chemical Analysis of Osprey pellet', op cit.

<sup>575</sup> Ames P (1966) 'DDT Residues in the Eggs of the Osprey in the North-Eastern United States and Their Relation to Nesting Success' *Journal of Applied Ecology* **3**(Supplement: Pesticides and the Environment, Jun, 1966): 87-97; Ames P and Mersereau G (1964) 'Some Factors in the Decline of the Osprey in Connecticut' *The Auk* **81**(2): 173-185.

rationalised as 'expendable' towards scientific ends. Instead, they attempted to sense the presence of chemicals *through* the bodies of other creatures that dwelt in the same environments, and were therefore physiologically involved in landscapes marked by pesticide use.

Such investigations proceeded from an understanding of the birds' existence as immersed *in* the environment. Osprey bodies were not bounded; the matter of their corporeality was constantly re-constituted amidst a variety of vital flows, now bearing a toxic load.<sup>576</sup> A correlation between the geographies of pesticide use and the declines recorded in other species' numbers generated a body of research that enabled one to sense the spatial extent of toxic affects through enacted parallels in avian experience. Not unlike the use of proxy-bodies in the laboratory, then, expendable beings were chosen on the basis of availability, abundance and a capacity to act as translatable 'kin' with ospreys by virtue of their immersion within the same environment. Such beings could thus offer 'the possibility of connecting across multiple biological species' to detect the presence of hitherto imperceptible materials beyond merely testing the eggs that failed.<sup>577</sup> In 1964, Waterston sought to arrange the netting of pike and trout from nearby lochs where the ospreys had been observed to fish, 'in an effort to discover if the bird has picked up toxic chemicals on Speyside'.<sup>578</sup> Here, the attempt was to determine the possible transmission of toxic materials through those sites where birds came into particularly visceral contact with the ecological and chemical flows of local geography. Rather than protecting a nest site, Waterston was asking his wardens to look beyond the nest with an eye to the places where ospreys and DDT *might* meet.

One of these wardens, Douglas Weir, lived locally and would continue to pursue the pesticides issue over the winter in the wake of the 1964 osprey season. Over the years that followed he would also be employed by the RSPB to carry out their annual surveys of local raptor populations. This work, in which Loch Garten

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<sup>576</sup> Alaimo S (2010) op cit.

<sup>577</sup> Davies G (2012) 'What is a Humanized Mouse? Remaking the Species and Spaces of Translational Medicine' *Body and Society* **18**(3-4): 133.

<sup>578</sup> *The Osprey* (21-27 June 1964) A weekly bulletin of Speyside wildlife, produced for public by the local staff of the RSPB, vol.1 no.8 – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 1.

volunteers often assisted him, demonstrates an outward expansion of attention on the part of the Society to the area's ecology as a whole.<sup>579</sup> Concern was being directed towards the relational constitution of a wider environment (and its denizens) beyond simply the objective of protecting pairs of ospreys. A threat like DDT emphasised the importance of understanding these kinds of connections. During the winter of 1964-65, Weir recovered locally a dead kestrel (*Falco tinnunculus*), tawny owl (*Strix aluco*) and young buzzard (*Buteo buteo*), which, together with a golden eagle egg he had acquired and the osprey eggs already tested, confirmed the presence of DDT and traces of dieldrin in the environment. Tests revealing traces of dieldrin (0.24ppm) and DDE (4.00ppm) in the single 1964 egg seemed to prove 'categorically' for Waterston 'that the stuff must have been picked up in locally taken fish'.<sup>580</sup> Admittedly a meagre sample, such recoveries began to build, by proxy, 'a basic picture' of local conditions for osprey dwelling. Yet the results in and of themselves remained too fragmentary to support any claims about what the relationship between pesticides and the plight of local wildlife might be.<sup>581</sup> Moreover, Weir investigated the use of pesticides in the region, noting sources that included chemical spraying by the Forestry Commission at their Inshriarch and Glenmore plantations (his letters do not mention specific compounds). At these sites, he was eager to get a license to kill a sample of blackcock (black grouse – *Tetrao tetrix*) and capercaillie (*Tetrao urogallus*), as well as to obtain their eggs, to determine the levels of contamination. Likewise, his correspondence mentions plans to enrol local river board bailiffs to net the area's lochs for fish such that they could be analysed for toxins at the government's Fresh Water Fisheries Laboratory at Pitlochry.

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<sup>579</sup> Letter from George Waterston to Jim Crompton and Anthony Grant, junior osprey wardens (2 May 1965) 'Operations Osprey 1965 and Predator Survey' – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued; Meeting of the Watchers' Committee (17 November 1965) RSPB Watchers Committee/Conservation Committee Minutes (Renamed Conservation Committee in October, 1966), July 1954-November 1970 – RSPB Sandy, Classmark 01.01.11.

<sup>580</sup> Letter from George Waterston to Douglas Weir (5 March 1965) 'Chemical Analysis of Osprey pellet', op cit.

<sup>581</sup> Letter from Douglas Weir to George Waterston (undated – 'Tuesday night', presumed late 1964) Discusses the use and a strategy for monitoring the use of toxic chemicals on Speyside – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

What is clear is that the Society's 'basic picture' relied upon sensing the toxicity of conditions for osprey on Speyside through the bodies of 'more expendable forms of life'.<sup>582</sup> These were creatures dwelling in the same environment and, unlike the ospreys, were abundant or available enough that they could be killed within the awkward biopolitics of conservation science. Such permissible harm both reflects the fact that osprey life was too scarce to be intervened upon or killed in this way, as well as revealing the residual and nebulous affects of a 'sacrificial logic of population', bound up with such efforts to manage and secure a valued, yet diminished avian presence.<sup>583</sup> Killing these other creatures offered a means to make toxic chemicals present. The status of the osprey 'population' – too small to be encountered as such – required the parallel deaths of 'sacrificial populations'.<sup>584</sup> Unfortunately, the archive does not record if these sacrificial schemes achieved fruition. The traces of Weir's attempts to determine the toxicity of Speyside are partial, perhaps vestigial. In a curious irony, the archival fragments of his investigations cling to the Operation Osprey archive in much the same way that the residues of pesticide compounds would cling to the failed eggs of the second pair. They hint towards a far greater level of involvement in, and movement through, the habitats of Speyside. Waterston would continually press Weir for local samples of fish into 1965.<sup>585</sup> It remains unclear, however, as to the outcome of his appeals.

The second pair returned to Balnespick in 1965 and events played out in a similar fashion. Three eggs were laid and all failed to hatch. Analysis revealed relatively high concentrations of organochlorines amounting to some 17.2ppm, 9.9ppm and 8.3ppm of DDE in each egg respectively. These were more substantial concentrations than had been recorded in previous years, but that fact alone meant little without a causal model of explanation.<sup>586</sup> More frustrating still, these amounts remained below the amounts of each chemical that might prove a lethal dose. In 1966, the birds returned once more to the same site, only to have their eyrie (alongside that at Loch Garten) destroyed in high winds on the 27<sup>th</sup> April. The

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<sup>582</sup> van Dooren T (2014) op cit.: 114.

<sup>583</sup> Srinivasan K (2014) op cit.: 507.

<sup>584</sup> Chrulew M (2011) op cit.; van Dooren (2014) op cit.: 91.

<sup>585</sup> Letter from George Waterston to Dick Fursman (23 February 1965) Asking Fursman to arrange fish samples from Speyside for analysis – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>586</sup> See results tabulated in Waterston G (1966) op cit.: 40.

following year, two ospreys (it was believed to be the same pair) moved to a 'conspicuous position' on the Rothiemurchus estate. A third pair were also discovered nesting near Forbes, in Morayshire.<sup>587</sup> Excited at the prospect of three hatches, Waterston prepared a 'bumper press release' drafted to maximise publicity for the RSPB and any possibility of additional donations.<sup>588</sup> Whilst the pairs at Garten and in Moray proved successful, the second pair again failed. The eggs were sent for their now routine analysis, but the results proved inconclusive.<sup>589</sup>

However, by the mid-sixties, there existed a substantial body of support for a causal linkage between the breeding failures of several declining birds of prey species – particularly the peregrine falcon (*Falco peregrinus*) and golden eagle – that could be used to sense and infer the deadly consequences of Speyside's envelopment within an expanded geography of toxic dispersal.<sup>590</sup> The NC was continuing its long-term study programme into the effects of toxic compounds on raptors, drawing evidence for a causal model from continually failing breeding pairs, eggs recovered laced with organochlorines, and inhospitable breeding environments.<sup>591</sup> There remained uncertainty around what exactly the affects of these material agents *were*, and I return to these questions in the final section. Suffice it to say, there was now a well-supported assertion that sub-lethal concentrations of DDE disrupted avian breeding mechanisms in some way, either by affecting behaviour or weakening the structural strength of eggs.<sup>592</sup> Given this uncertain understanding, the following section explores how the RSPB would devise a plan to insulate the eggs in the nest of the second pair from the affects of toxicity. Though an unrealised scheme, I echo the sentiments of Latour in tracing the assemblies of failed or controversial projects as a

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<sup>587</sup> Letter from George Waterston to Dick Fursman (4 May 1967) Discussing arrangements for guarding the second pair – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>588</sup> Letter from George Waterston to Dick Fursman (6 June 1967) 'Operation Ospreys Etc' Discussion of press releases following the hatching of ospreys – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>589</sup> Minutes from a meeting of the Conservation Committee (22 November 1967) RSPB Watchers Committee/Conservation Committee Minutes (Renamed Conservation Committee in October, 1966), July 1954-November 1970 – RSPB Sandy, Classmark 01.01.11.

<sup>590</sup> Lockie J and Ratcliffe D (1964) 'Insecticides and Scottish Golden Eagles' *British Birds* **57**(3): 89-102; Ratcliffe D (1963) op cit.; Ratcliffe D (1965) 'The Peregrine Situation in Great Britain 1963-64' *Bird Study* **12**(2): 66-82.

<sup>591</sup> See the published report by Cooke A, Bell A and Haas M (1982) *Predatory Birds, Pesticides and Pollution*; Sheail J (1985) op cit.; Ratcliffe D (1963) op cit.: 86.

<sup>592</sup> Ratcliffe D (1967a) 'Decrease in Eggshell Weight in Certain Birds of Prey' *Nature* **215**(July 8): 208-210.

means of laying bear how associations between birds, environments, biologies and contaminants were made or foundered as humans sought to further involve themselves in osprey life.<sup>593</sup>

#### **4. Securing vital functions ‘without organs’**

By the end of 1967 the second pair of ospreys had endured five consecutive breeding failures. Four of these had occurred despite the birds incubating to term. Clearly the threat to successful hatching was not one that could be overcome with the addition of RSPB wardens or barbed wire. Necessarily limited investigations revealed the presence of organochlorines both in the surrounding environment and the addled eggs. Responding to such a threat, to follow Hinchliffe *et al*, was not a question of securing the ‘breach points’ by which toxic compounds had entered the nest. Rather, managing the threat of pesticide contamination would become a question of managing the pathological effects that occurred upon the actualisation of certain ambiguous ‘tipping points’ in toxicity.<sup>594</sup> This meant recognising that organochlorine chemicals were an already-present threat capable of reacting with the physical composition of bird and egg to produce conditions unfavourable to life’s emergence.

In this section I explore how the RSPB proposed to respond to this threat. The osprey was figured – as a result of the uncertainty surrounding both its biology and the capacities of pesticides – in two senses as ‘without organs.’ Firstly, developing from Deleuze and Guattari’s concept of the ‘Body without Organs’, I argue that Waterston and others understood the threat of pesticide pathologies in terms of a ‘de-territorialising’ of the osprey organism, and that it was against the affects of this de-territorialised osprey that protections had to be mustered. Secondly, I argue that the RSPB’s attempts to insulate the nest against the affects of a disrupted osprey subject reveal the extent to which these birds were conceptualised in a manner akin to Bruno Latour’s concept of the ‘black box’. Facing their lack of knowledge

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<sup>593</sup> Particularly, I am referring to his motivation made explicit in tracing the networks of a failed transport infrastructure project in Paris in Latour, B (1996) *Aramis or The Love of Technology*; and his characterization of the ‘construction site’ as a vantage point from which to observe the forging of associations in Latour B (2005b) *op cit.*: 88-89.

<sup>594</sup> Hinchliffe S *et al* (2013) *op cit.*

regarding the nature of osprey breeding biology, the RSPB again relied upon the inferences and proxy bodies provided by working with other species.

### **Insulating against pathological behaviour**

Within geographical scholarship of conservation, there is a recognition of the ways in which conservationists attempt to secure against the potential 'emergence' of threatening forms of lively agency such as invasive or hybridised species.<sup>595</sup> Within materialist scholarship there is likewise a recognition of the body as a porous, fleshy and molecular entity, situated within a broader network of risky, unpredictable and vibrant flows of matter.<sup>596</sup> The biopolitical management of bodies within such frameworks aims 'to achieve *certain* biomolecular figures' and 'pre-empt' others.<sup>597</sup> On Speyside, the biosecurity practices of containment and closure faltered in the presence of human-nurtured material agents, and resulting contaminated bodies, that were 'epistemologically uncertain' in their negative affects.<sup>598</sup> A fixed, impermeable and linear notion of osprey corporeality and breeding biology became unsettled as a result of the involvement of pesticide compounds in breeding failures, absorbed via birds' lively interactions with their environment. Waterston and his wardens were therefore faced with a new set of challenges when attempting to secure the contents of the nest against pesticides.

To confront a toxic, slow violence required giving 'figurative shape to formless threats whose fatal repercussions are dispersed across time and space'.<sup>599</sup> In the work of conservationists and ornithologists seeking to make linkage between raptor population declines in Britain and America and widespread pesticide use, the exact nature of the causal relationship remained a Latourian matter of concern. There were several theories, such as those proposed by ecologist Derek Ratcliffe, suggesting that sub-lethal doses of pesticides might be blamed for the expression of a number of behavioural and physiological pathologies when they reached an ambiguous tipping point. These behaviours included: restlessness on the nest,

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<sup>595</sup> Barker K (2008) 'Flexible boundaries in Biosecurity: Accommodating Gorse in *Aeotera* New Zealand' *Environment and Planning A* **40**(7): 1598-1614; Freidricksen A (2016) op cit.

<sup>596</sup> Alaimo S (2010) op cit.

<sup>597</sup> Braun B (2007) op cit.: 23 [orig. emphasis].

<sup>598</sup> Krupar, S (2007) 'Where Eagles Dare: An Ethno-Fable With Personal Landfill' *Environment and Planning D: Society & Space* **25**(2): 199.

<sup>599</sup> Nixon R (2011) op cit.: 10.



which some wardens allegedly observed with the second pair of ospreys in 1965; the eating of eggs, observed at Balnespick in 1964; and the thinning of egg-shells, making them more susceptible to accidental breakage. In short, the presence of toxic chemicals served to 'de-territorialise' the coherence of osprey's biology, stopping it from acting as it was expected to.<sup>600</sup>

Whatever little Ratcliffe and other knew for sure, the presence of metabolised DDT appeared to disrupt the ability of avian organs to successfully repeat the processes of reproduction. In relation to these affects, the undesirable and uncertain 'biomolecular figure' (to use Braun's phraseology) that the osprey had become in the partial understanding of ecologists and the RSPB can be figured through Deleuze and Guattari's concept of the 'Body without Organs' (hereafter BwO). Pesticides, as metabolites in the osprey's body, were observed to produce a new 'version' of osprey life: one that could not breed. Within Deleuze's scholarship the living organism is a territorialisation of various material-metabolic processes and rhythms. Repetitive material, embodied and affective formations are stratified or stabilised into 'organs' (a Deleuzian term that refers to 'machinic' components which perform repetitive, rhythmic processes within an assemblage), which are, in turn, assembled and territorialised as an 'organism', such as the osprey.<sup>601</sup>

By contrast, a body *without* organs is conceptualised as the experimental, uncertain assemblage that 'retains its organs, but they are released from the habitual patterns they assume in its organism form'.<sup>602</sup> The result is a de-territorialised, de-centred, less coherent and less habituated body. This is in stark contrast to the organism that persists via homeostatic, necessarily '*unfree* selection'. Its organs and metabolic processes are fixed, enacting the continuous repetitions necessary to sustain its ongoing existence.<sup>603</sup> Such new modes of being are neither predetermined as positive nor negative in Deleuze and Guattari's scholarship. For example, the intoxicated human is a BwO: their capacities altered or newly actualised by the disruption of

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<sup>600</sup> Letter from George Waterston to Jim Crompton and Anthony Grant, junior osprey wardens (2 May 1965) 'Operations Osprey 1965 and Predator Survey', op cit.

<sup>601</sup> Deleuze G (2014) op cit.; Protevi J (2012) op cit.

<sup>602</sup> Protevi J (2012) op cit.: 257.

<sup>603</sup> Barker J (2015) 'Against 'vital materialism': The Passive Creation of Life in Deleuze' *Mosaic* 48(4): 58.

usual (sober) bodily rhythms in the presence of narcotic substances. Some of these actualisations prove lethal, others open up routes to new modes of bodily experience or agential possibility.<sup>604</sup> If one is to conceptualise a 'Deleuzian biopolitics' of pesticide contamination then the aim of governing osprey life on Speyside would become to ensure that the osprey body remained stable, reliable and repetitive in its biological functions of reproduction. As Deleuze and Guattari put it: 'You will be organized, you will be an organism, you will articulate your body – otherwise you're just depraved.'<sup>605</sup> If the osprey's reproductive biology could not be stabilised, then some external effort would have to be made to support, or adopt, those disrupted functions.

The avian body in contact with pesticides proved 'smooth, slippery, opaque'; less the repeating, machinic producer of fertile eggs than the result of a sprawling, uncertain, pathological experiment that spread via the contagion of toxic chemicals within the environment.<sup>606</sup> The notion of the BwO – as an entity of 'antiproduction' – is therefore conceptually useful (in lieu of any definite causal model at this point) as a way of considering how the material affects of pesticides were understood to operate by those seeking to secure the second pair's breeding attempts.<sup>607</sup> The threats to successful hatching – eggs broken, chilled or eaten in the nest – came about as a result of a 'physiological upset' tentatively attributed to organochlorine contamination.<sup>608</sup> As with certain materialisations of the BwO, the contaminated osprey was an undesirable biomolecular figure: an 'organism moved from equilibrium, out of a stable state or comfort zone' to become something more uncertain and damaging.<sup>609</sup> Waterston's subsequent actions reflected his search for a means to become involved in the nest to support the biological functions that should be expected to occur there. He wanted to insulate its contents – the 'almost-

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<sup>604</sup> Deleuze G and Guattari F (2013) op cit.: 173-193.

<sup>605</sup> Deleuze G and Guattari F (2013) op cit.: 185.

<sup>606</sup> Deleuze G and Guattari F (2000) op cit.: 9-10.

<sup>607</sup> Deleuze G and Guattari F (2000) op cit.: 15.

<sup>608</sup> Waterston G (1964) 'Operation Osprey, 1964' *Bird Notes* 31(6) [accessed at RSPB Sandy, The Lodge library]: 199.

<sup>609</sup> Protevi J (2012) op cit.: 258.

osprey' contained within the egg – against such a pathological body and its behaviours.<sup>610</sup>

One such solution appeared by way of Anthony Colling, an NC ecologist. In 1962, Colling had engaged in an experiment to protect the eggs of the rare Montagu's harrier (*Circus pygargus*) in Wales from the activities of collectors. Once the eggs were laid, he had removed them, leaving 'dummy eggs' for the female to incubate so that the birds would not desert the nest. The real eggs were incubated artificially *ex situ*, safe from the threat of theft, and returned when they began to hatch. The chicks were successfully reared by their welcoming parents and the whole endeavour was a success.<sup>611</sup> Colling subsequently argued that the project demonstrated a viable and successful means by which the security and close scientific attention made possible through the apparatus of *in situ* conservation could be brought, temporarily, into the field to secure the survival of a threatened raptor species.<sup>612</sup> He would also note, in the same conference paper, that the increasing incidence of toxins meant that the hatching of eggs in the wild – 'never a certainty' – was also becoming 'progressively unlikely'.<sup>613</sup>

Anticipating the second pair's return in 1968, Waterston proposed to the grandees of the RSPB that Colling's incubation method be attempted when they did, which was approved.<sup>614</sup> Neither he nor the RSPB's research biologists seemed sure why the clutch continued to fail and the exact causality between pesticides and breeding failure remained unclear. Whilst they could not stop toxic infiltration into the bodies and eggs of the ospreys, it seems that Waterston hoped that by physically removing the eggs from the nest he could re-territorialise the bodily functions of avian incubation required to have them hatch through the repurposing and use of

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<sup>610</sup> I use this phraseology following recent discussion of the egg as 'almost-animal' by Cole E (2016) *op cit.*: 28. I also invoke, albeit more implicitly, Deleuze's notion of the egg as a field of virtual possibility in Deleuze (2014) *op cit.*

<sup>611</sup> Colling A (1964) 'The Present Position regarding Protection of Birds of Prey in Great Britain' Reprinted from Report on the ICBP Working Conference on Birds of Prey and Owls, 1964: 99-103 – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>612</sup> Braverman I (2015) *op cit.*

<sup>613</sup> Colling A (1964) *op cit.*: 101.

<sup>614</sup> Minutes of a meeting of the Conservation Committee (28 February 1968) RSPB Watchers Committee/Conservation Committee Minutes (Renamed Conservation Committee in October, 1966), July 1954-November 1970 – RSPB Sandy, Classmark 01.01.11.

agricultural technologies. Removing the eggs from the nest would also insulate them against the more restless and unpredictable version of the birds that toxicity appeared to produce. The experiment approved, Waterston and his wardens assembled the required apparatus to involve themselves in vital osprey functions. Colling provided consultation, obtaining for the Society a specimen osprey egg from the Royal Museum of Scotland from which a set of replicas could be made.<sup>615</sup> Curfew Appliances, the agricultural electronics firm that previously supplied the incubator in 1962, were contacted and a similar model – the ‘No.146’ (Figure 12), a 50/60-egg capacity device with removable, transparent lid – soon ordered.<sup>616</sup> The Society hoped the equipment would arrive in time to be set up before the ospreys returned to lay their eggs in 1968. However, despite these intentions to re-territorialise and insulate against the biological disruption of the birds, such plans also served to expose both the lack of understanding concerning osprey biology at this time. In doing so, they reveal the birds’ figuration within the protection plans of the RSPB in another sense as ‘without organs’.

### **Black-boxed birds and the limits to intimate knowledge**

Plugging the reproductive processes of ospreys into an assemblage of agricultural technology and conservation field science was an awkward business. A number of concerns were raised that could only be answered with referral to what was known about other, more commonly experimented upon and observed species. The second pair returned early in April of 1968 to their Rothiemurchus site and warden visits were kept to a minimum to avoid drawing attention.<sup>617</sup> Meanwhile, correspondence flew thick and fast over the unanswered questions around the RSPB’s pending involvement. For those protecting ospreys at Loch Garten, the prospect of this intervention presented the first time that those involved in Operation Osprey had to engage directly with the specifics of osprey biology. In the work of Waterston,

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<sup>615</sup> Letter from George Waterston to Peter Olney, RSPB Research Biologist, The Lodge, Sandy (20 March 1968) ‘Second Osprey Eyrie: Artificial Incubation’ – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>616</sup> Letter from the Director, Curfew Appliances Ltd to A W Colling, Nature Conservancy, Edinburgh (8 March 1968) Discussing the models of incubators available and that provided to Colling in 1962 – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued; Letter from Mike Everett to the Director, Curfew Appliances Ltd (28 March 1968) Placing an order for an incubator from curfew – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>617</sup> Letter from Dick Fursman to George Waterston (14 April 1968) Discussion of the incubation plans at the second eyrie and queries – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

analysing the logged records of behaviour and writing on osprey breeding ecology, he had only been able to quantify those aspects of osprey life observable at a distance: the time spent incubating the eggs, the frequency and intervals at which fish or nest material were delivered, and the incidences of mating (see Chapter 5).<sup>618</sup> What the wardens at Operation Osprey could not observe were those internal mechanisms of osprey reproduction and the subsequent work of carefully managing the temperature and position of the eggs in the nest.

It is therefore useful to consider a second version of the osprey figured without organs, albeit in a more literal sense. Within the apparatus of osprey protection at Loch Garten the birds were, to intents and purposes, coherent, reliable entities threatened from without rather than *within*. The ospreys on Speyside were 'black-boxed': a term developed by Bruno Latour in *Science in Action*. Latour's concept denotes how particular technologies or networks – themselves the complex compositions of multiple component agencies – are figured (materially and semiotically) as solid, uncontroversial entities that perform to expectations:

'That is, no matter how controversial their history, how complex their inner workings, how large the [...] networks that hold them in place, only their input and output count.'<sup>619</sup>

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<sup>618</sup> Summarised in Waterston G (1962) op cit.: 65-162.

<sup>619</sup> Latour B (1987) op cit.: 4.



**Figure 12: An image of an artificial incubator from the Curfew Brochure, 'See Them Hatch' - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued. Reproduced with the kind permission of the RSPB.**

Latour deploys the term to describe technological devices (including the eponymous aircraft crash recording system) that come to be enacted as a single node of agency within further networks of scientific or engineering innovation. Those using such devices become less concerned with *how* such things work as long as they do so, losing interest as these 'gatherings' become stabilised objects.<sup>620</sup> The osprey appears to have been understood within this kind of mechanistic approach. The underlying assumption of protecting against direct intrusion (as described in Chapter 3) appears to have been that, if left undisturbed, the birds would reliably produce young. As a result, the biopolitics of osprey life were concerned with

<sup>620</sup> Latour B (2005a) op cit.

ensuring the exclusion of humans from the nest area and had little to do with the inner workings of the osprey body and how it might also be intruded upon or compromised, made to act in unexpected ways.

And yet, a proposal to take the eggs from the nest of the second pair, and to insert them into an *ad hoc* technological assemblage of agricultural devices designed to cohere as a proxy for the incubating birds, required rather more knowledge of the osprey's incubation process than was available. Curfew's brochure declared their incubators capable of hatching 'chicken, bantams, geese, turkey's etc.': it was hard to know if this list could be extended to include ospreys.<sup>621</sup> The de-territorialisation of the osprey by pesticides led Waterston and wardens on Speyside to confront just how little they knew about osprey breeding biology. As the birds built up their nest and engaged in mating, anxious queries from Dick Fursman revealed ever more proliferating matters of concern. What sort of temperature setting should the machine be adjusted to when incubating osprey eggs? Would the eggs need turning, or moistening? If so, how was this to be done and how frequently?<sup>622</sup> Lacking a view into the nest cup and despite some efforts to log the frequency of egg turning when observing the birds (see Chapter 5) much of this behaviour was unknown. During the NC's previous involvements with Montague's Harriers Colling had 'hardly diverged' from the supplied instructions detailing how to hatch domestic chickens' eggs.<sup>623</sup> In this manner, just as the bodies and eggs of other raptors had formed the basis for the RSPB to sense the presence of pesticides within the Speyside environment so did familiar (and abundant) bodies – in this case, those of domesticated poultry – provide a proxy for connecting the osprey to agricultural technologies. The head of RSPB reserves at the Society's headquarters in Sandy was informed that despite the guidance of 'Tony's notes' wardens would have to 'play this largely by ear.'<sup>624</sup>

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<sup>621</sup> Curfew Brochure 'See Them Hatch' Observation Incubator – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>622</sup> Letter from Dick Fursman to George Waterston (14 April 1968) op cit.

<sup>623</sup> Letter from Mike Everett to George Waterston (18 April 1968) Discussion of Colling's use of incubator – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>624</sup> Memo from Mike Everett to David Lea, RSPB Reserves Department, "et al", cc. George Waterston (22 April 1968) "'Operation Osprey'" A report on Everett's recent visit to Speyside with details of the incubation plan – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

In early April the birds looked like they would soon lay and the packaged incubator (marked 'URGENT') was rushed to Speyside by rail.<sup>625</sup> It was expected the first egg would be laid on the 19<sup>th</sup> April, with the remainder of the clutch completed within a week.<sup>626</sup> By the 22<sup>nd</sup> April, the birds had still not laid eggs. The wardens – ready with the incubator, six dummy eggs and a license from the NC – waited anxiously.<sup>627</sup> Then, when it appeared from nest observations that a different female had colonised the site, a last minute decision was made to abandon the scheme. One can speculate that Waterston and the RSPB preferred to put faith in the possibility that this bird – by virtue of either exhibiting a lower toxic load or greater fecundity – might allow them to re-close the 'black box' that had begun to be opened by forays into osprey incubation. Soon enough further observations seemed to confirm that the birds had begun to incubate normally. Writing to the managing director of Curfew with the news that allegedly chicks had hatched at the second site, the Society certainly appears relieved not to have to implement such a risky scheme – their lack of confidence evident from a decision not to publicise their planned experiment. As they put it 'nobody, as far as we know, has ever hatched Ospreys in an incubator and we were never sure whether we ought to vary the standard procedure described in the instructions or not!'<sup>628</sup>

Unfortunately, it would later transpire on closer inspection that there were no chicks in the nest. This new permutation of the second breeding pair still failed, doing so again in 1969 despite brief suggestion to revive the incubation project and use bantam hens to incubate the eggs.<sup>629</sup> Hereafter, a single female bird returned to the site in 1970 and 1972 before, eventually, it was abandoned.<sup>630</sup>

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<sup>625</sup> Letter from the Director, Curfew Appliances Ltd to Mike Everett (10 April 1968) Letter to inform the RSPB of the incubator being dispatched – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>626</sup> Letter from Dick Fursman to George Waterston (14 April 1968) op cit.

<sup>627</sup> Memo from Mike Everett to David Lea, RSPB Reserves Department, "et al", cc. George Waterston (22 April 1968) "Operation Osprey", op cit.

<sup>628</sup> Letter from Mike Everett to Mr D. L. Dowman, Curfew Appliances Ltd (12 June 1968) Informing Curfew of the decision not to use the incubator – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>629</sup> Letter from Dick Fursman to George Waterston (8 March 1969) Letter makes a mention of a possible incubation scheme in 1969 – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>630</sup> Green R (1976) op cit.: 488.



One can ask, had the RSPB intervened in the manner originally proposed, whether there a different outcome to the tale of the second pair was possible. Of more interest to my discussion has been what these plans proposing human involvement in osprey incubation reveal. It was clear that the uncertain threat of pesticides affected some kind of profoundly negative change in the osprey's body. To use Deleuze and Guattari's concept of the BwO articulates how organochlorines disrupted and de-territorialised the osprey, producing a version of the bird that could not reproduce. In this sense, Waterston's response constituted a technologised means of 're-territorialising' and insulating the contents of the nest against the pathological outcomes of this new osprey figure. These plans in turn exposed that the 'osprey' at the centre of protectionist plans on Speyside was in actual fact rather hollow. To secure a threat that operated through the tipping points of contamination required a more intimate knowledge. The uncertainties of incubation were gathered and worked through the surrogate bodies of poultry within the practices of a toxic biosecurity expressing an awkward biopolitics. In the final section I turn to the establishment of a causal link between egg-shell-thinning and sub-lethal pesticide contamination, and discuss the uncertainties for ospreys that arose within such theorising given the small size of the population.

## **5. Chemical Concerns**

The six seasons of breeding failures between 1963 and 1968 marked the end of the RSPB's attempts to secure a second pair of birds in Rothiemurchus. Meanwhile, parallel efforts to understand the nature of causality between organochlorine pesticide contamination and raptor breeding failure continued. Waterston sought answers too, often in conversation and correspondence with those carrying out such investigative work in both Britain and America. In this final section I want to describe the manner of establishing a causal connection between the pathological de-territorialising of raptor biology, conceptualised in the previous section, and the presence of toxic chemicals. I argue that the process by which this claim was proposed, and then extended to the plight of the Scottish osprey, further emphasises the awkwardness of a biopolitics engaged in the protection of a diminished, scattered and endangered species community. As with attempts to determine levels of contamination, whilst individual birds might have been permissibly killed for

science if this meant assisting in the protection of larger populations – such acts even ‘rationalised as necessary’ – endangered individual ospreys were too important to sacrifice to disruptive experimentation.<sup>631</sup> The more nuanced and oblique forms of investigation traced over this chapter continued to be the route to knowledge.

### **Awkward experiments**

Since the early 1960s, a number of prominent ornithologists in Britain and America had been concerned with declining raptor populations. In Britain, ecologist Derek Ratcliffe’s annual surveys (since 1962) of peregrine falcon breeding distributions charted both the species decline in Britain and provided evidence as to the damages wrought by pesticides across the geographies of their use.<sup>632</sup> Indeed, as Ratcliffe had argued, of all the factors that *might* be the cause of such a wide-scale decline (disease, climate change, persecution or food scarcity), none explained – never mind coincided with – the synchronous losses recorded for both the peregrine and other species with such alarming neatness as the onset and spread of organochlorine dispersal.<sup>633</sup> As I have already described, in the USA the decline of a much larger osprey population there had been similarly noted in the wake of the war and linked with pesticide use.<sup>634</sup>

Waterston’s correspondence with both Ratcliffe and American ornithologist Roger Peterson demonstrate the limits to investigating such effects within the British osprey ‘population’ – comprising some three pairs in 1968. In conversation with Peterson, Waterston learned of the egg-transfer experiments conducted in the USA.<sup>635</sup> A technique by which one could gather empirical evidence connecting the geographies of hatching failure and toxic compounds, Petersen described how eggs from a declining colony (with a higher level of contamination) at Lyme Bay, Connecticut, were exchanged with those from a stable colony (with lower levels of contamination) at Chesapeake Bay, Maryland. Each set of birds incubated eggs laid

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<sup>631</sup> Srinivasan K (2014) op cit.: 506.

<sup>632</sup> Ratcliffe D (1963) op cit.; Ratcliffe D (1965) op cit.; Ratcliffe D (1967b) ‘The Peregrine situation in Great Britain 1965-66.’ *Bird Study* **14**(4): 238-246.

<sup>633</sup> Ratcliffe D (1963) op cit.: 71-74.

<sup>634</sup> Ames P (1966) op cit.; Poole A (1989) op cit.

<sup>635</sup> This procedure is described in Ames P (1966) op cit.; and Weimeyer S, Spitzer P, Krantz W, Lamont T, Cromartie E (1975) ‘Effects of Environmental Pollutants on Connecticut and Maryland Ospreys’ *The Journal of Wildlife Management* **39**(1): 124-139.

at the other site, showing that the eggs from Chesapeake proved far more likely to hatch (6/13) than those from the more heavily contaminated Lyme Bay (just 1/13). For Peterson, such experiments suggested that, rather than causing pathological behaviour, 'pollutants in the food chain' might instead generate issues 'with simple biological fertility'.<sup>636</sup>

Waterston was clearly excited by Peterson's results, eager to apportion the blame for the slow pace of the Scottish re-colonisation to this phenomenon. However, the manner by which Pearson and others could support and assert such claims – experimentally isolating the failure to breed within both the egg itself and the specific toxic geographies from which it had come into being – raised a problem. In America, despite the huge declines, there were still reasonably well-established osprey colonies, both subject to regular monitoring and surveillance, and large enough to legitimate invasive involvements and statistical analysis of the resulting data. For those working in the UK, the enduring problem of raptor study in relation to toxic compounds was obtaining enough samples to produce a dataset capable of supporting conclusions that were 'statistically significant'.<sup>637</sup> The mapped and calculated existence of the 'norm' within a population determined one's 'field of intervention' in the management of life as a resource.<sup>638</sup> Yet, with only a handful of birds it was more awkward to discriminate between osprey kinds fostering of 'on-going life' and those requiring intervention, stewardship or enforcement.<sup>639</sup>

These limitations appear in the reaction to Waterston's proposed ideas for (albeit less lethal or disruptive) experiments that he pitched to the NC in autumn, 1968. He suggested weighing the newly hatched eggs of ospreys on Speyside in order that it might become clear – after they either did or did not hatch – whether there was any quantifiable difference discernible at the point of laying between those succeeding or failing. It remains unclear what this would prove. Perhaps Waterston had been inspired by the reports that eggshell weights had declined in correlation with the

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<sup>636</sup> Letter from Roger T Peterson, Old Lyme, Connecticut to George Waterston (14 June 1968) A discussion about the pesticide issue and experiments in America – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>637</sup> Ratcliffe D (1967b) op cit.: 214.

<sup>638</sup> Foucault M (2003) op cit.: 243-245.

<sup>639</sup> Biermann C and Mansfield B (2014) op cit.: 269.

increases in pesticide use, as discussed further below.<sup>640</sup> As Ratcliffe himself replied, regardless of the experiment the *size* of the Scottish osprey population was such that no data generated would produce ‘significant results’ as to outweigh the cost of disturbing the few birds that were attempting to nest. He argued instead that ‘work of this kind’ was best ‘left to countries where they have substantial populations of the species.’<sup>641</sup> The causal connection that Ratcliffe would come to propose was developed from work with several, more common British raptor species. Though widely accepted, it too would suffer from the uncertainties that arose when doing science amidst awkward biopolitics. Concerns with chemicals endured as matters of concern.

### **Making associations between chemicals and eggshells**

By 1967 Ratcliffe had enough data to propose that sub-lethal organochlorine contaminations in birds of prey significantly paralleled both a degenerative trend in eggshell thickness and an increasing incidence in broken eggs in the nest. From this work, he forged a causal association between the increasing levels of environmental toxicity following the Second World War and the failure of birds to hatch young. Whilst the toxic effects of high-dosing pesticides upon raptors were reasonably well established – Ratcliffe cites American experiments on captive Bald Eagles fed DDT that subsequently ‘sickened and died’ – the more non-linear effects of sub-lethal contamination, accruing over time, were not.<sup>642</sup> The eggshell thinning hypothesis therefore demonstrated a shift towards the appreciation of toxic chemicals’ ability to enact a slower form of violence that was expressed across a different temporality.<sup>643</sup>

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<sup>640</sup> Ratcliffe D (1967a) op cit.

<sup>641</sup> Letter from Derek Ratcliffe, The Nature Conservancy, Monks Wood Experimental Station to George Waterston (13 December 1968) A reply to a letter from Waterston suggesting an egg-weighing experiment with discussion of current research on pesticides – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>642</sup> Ratcliffe D (1963) op cit.: 73.

<sup>643</sup> Nixon R (2011) op cit.; Vogel S (2008) ‘From ‘The Dose Makes the Poison’ to ‘The Timing Makes the Poison’: Conceptualising Risk in the Synthetic Age.’ *Environmental History* **13**(4): 667-673.

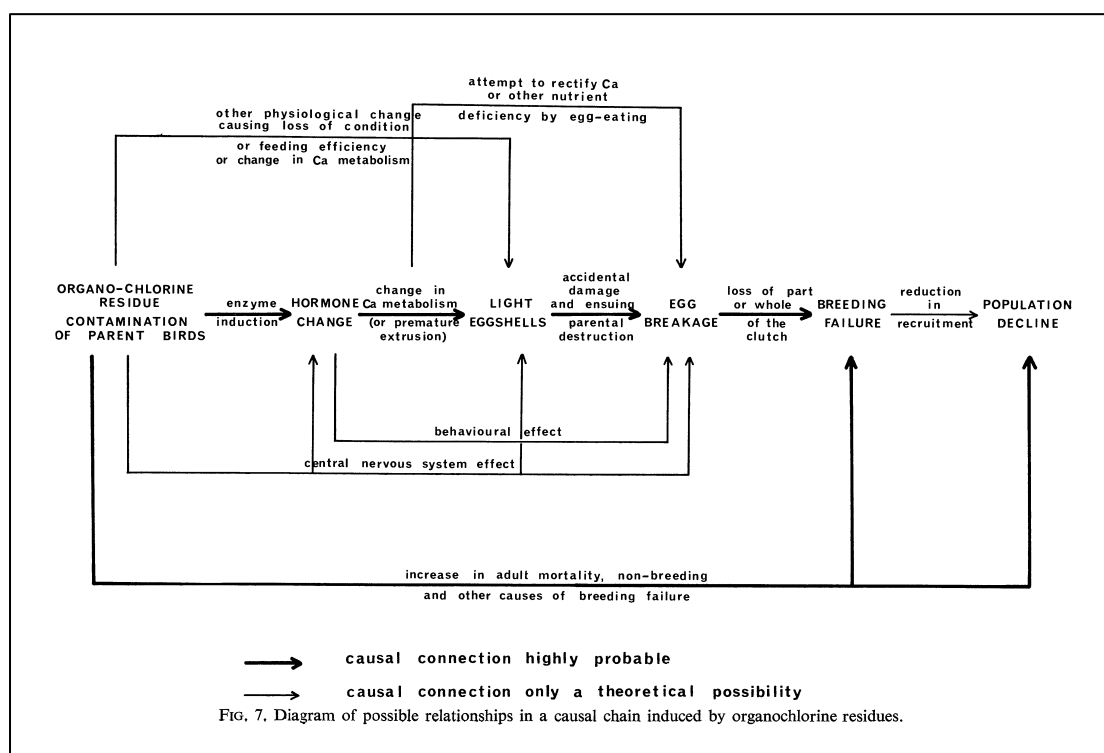


Figure 13: 'Diagram of possible relationships in a causal chain induced by organochlorine residues', reproduced from Ratcliffe D (1970) 'Changes Attributable to Pesticides in Egg Breakage Frequency and Eggshell Thickness in Some British Birds' *Journal of Applied Ecology* 7(1): 67-115.

This hypothesis drew upon work carried out upon a great diversity of bird species, different in their inhabitancy and responses to the world. The links between the metabolising of calcium carbonate ( $\text{CaCO}_3$ ) – constituting around 90% of the 'egg structure' – and the hormonal release of oestrogen in avian bodies had been established through the experimental manipulation of chicken's bodies and diets in the 1950s. These experiments showed that such hormonal controls controlled the production of  $\text{CaCO}_3$  required for eggshell, and were 'potentially sensitive to any chemical disturbing hormone regulation'.<sup>644</sup> It was therefore inferred by Ratcliffe, and others across the Atlantic, that organochlorine compounds entering (and persisting in) the bodies of raptors could interfere with the liver enzymes that controlled the release of the oestrogen, restricting the production of egg-shell.<sup>645</sup>

<sup>644</sup> Ratcliffe D (1967a) op cit.: 209.

<sup>645</sup> See the work of Hickey J and Anderson D (1968) 'Chlorinated Hydrocarbons and Eggshell Changes in Raptorial and Fish-Eating Birds' *Science* 162(3850): 271-273; letter from Derek Ratcliffe, The Nature Conservancy, Monks Wood Experimental Station to George Waterston (13 December 1968) op cit.

Since eggs in the nest were subject to hazards during incubation that tested their structural strength (knocks, the poorly dispersed weight of a sitting bird, sharp objects in the nest), '[t]he thinner the eggshell the greater the risk of such accidental damage'.<sup>646</sup> This hypothesis explained the rise in reported egg-breakages across numerous raptor species. Ratcliffe himself collated data documenting a tenfold increase in egg breakages amongst the peregrines he had surveyed post-1950. The recorded incidences of egg breakage at the nest of the second pair of ospreys were included in his findings as additional examples that complemented the longer trends available for other species.<sup>647</sup>

Developing his work from 1967, Ratcliffe published the results of some 6 years of accumulated observations on the plight of British birds of prey in 1970. He proposed a definite link between pesticides and shell thinning; shell thinning and declining productivity (see Figure 13). His statistical work suggested that eggshell decreased at sub-lethal concentrations up to 10ppm, beyond which there was little acceleration of the thinning effect.<sup>648</sup> The mechanism was straightforward: the ingesting of chemical compounds disrupted the production of egg-shell, in turn leading to more fragile eggs that broke in the nest and caused reduced the possibility breeding success.<sup>649</sup>

### **Causal Uncertainty and awkward biopolitics**

Despite this causal link soon becoming accepted within the ecological community, the material capacities of pesticides and their affects in relation to birdlife remained deeply uncertain in two key ways. Firstly, the material agency of pesticide compounds remained deeply uncertain, as did their activities when in relation with avian biologies. Secondly, attempts to understand and measure the impacts of pesticide contamination on eggshell thinning were continually limited by the awkward biopolitics of ecological science concerning threatened populations. I explore each in turn.

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<sup>646</sup> Ratcliffe D (1970) 'Changes Attributable to Pesticides in Egg Breakage Frequency and Eggshell Thickness in Some British Birds' *Journal of Applied Ecology* 7(1): 95.

<sup>647</sup> Ratcliffe D (1970) op cit.: 73.

<sup>648</sup> Ratcliffe D (1970) op cit.: 91)

<sup>649</sup> For a succinct summary of this causal model see Newton I (1979) op cit.: 231.

As a first source of uncertainty, the material capacities of DDT and other organochlorines were still very much a matter of concern. The tests to determine their toxicity conducted during and after the war had involved feeding contaminated foodstuffs to a variety of laboratory mammals and birds and noting the dosage at which lethal effects occurred.<sup>650</sup> American ornithologist Peter Ames describes his own experiments subjecting Japanese quail (*Coturnix japonica*) to different dosages of DDT in their feed with the intention of extrapolating his results to the effects of the pesticide on an osprey colony that he had been observing. Whilst the quails were in many ways ‘an ideal experimental bird’ – in terms of temperament and laying rate – he was uncertain as to their suitability as a proxy for osprey biology. His work reveals the ‘pan-species thinking’ deployed by those simultaneously attempting to understand the effects of different levels of contamination on rare birds, whilst also navigating the awkward biopolitics of their conservation.<sup>651</sup>

To borrow from Sarah Vogel, an understanding of such compounds operating pathologically at sub-lethal concentrations to disrupt the hormonal controls within the body, jarred sharply with the linear logic of early twentieth-century toxicology’s ‘fundamental principle’: ‘the dose makes the poison’.<sup>652</sup> It was soon recognised from laboratory trials and the field observations of different raptors’ responses to environmental contamination that the ‘final expression’ of pesticide toxicity, in terms of egg-thinning, varied greatly ‘according to species’.<sup>653</sup> In practice very little was known of how particular species like the osprey would react to different sub-lethal dosages, given they had not – or could not – be subject to the same kinds of longitudinal or experimental observations as, for example, domesticated fowl.

It was also the case that the resultant effects of toxicity could become compounded if multiple organochlorine pesticides were present together and interacted within the same body. Due to their combinative affects, if a bird had ingested both DDE and dieldrin the observed eggshell thinning was often much greater.<sup>654</sup> As Steve

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<sup>650</sup> Carson R (1965) op cit.; Russell E (1999) op cit.

<sup>651</sup> c.f. the ‘species thinking’ (as discussed in later chapters) of van Dooren (2014) op cit.: 116.

<sup>652</sup> Vogel S (2008) op cit.: 670.

<sup>653</sup> Ratcliffe D (1970) op cit.: 95; see also Newton, I (1979) op cit.: 246.

<sup>654</sup> Ratcliffe D (1970) op cit.: 90.

Hinchliffe writes of the proteinaceous infectious particles (prions) that were proposed as the possible vector of Bovine Spongiform Encephalopathy (BSE) and scrapie in cattle and sheep respectively, any search for linear, causal explanations that sought to utilise this new pathological agent found results frustrated by a nonlinear and emergent form of agency in contravention of the traditional notions of molecular biology. The expectation was that there existed 'discrete entities [...] to which primary properties and agencies could be expected' and that such actors could be labelled causative within narratives of BSE.<sup>655</sup> In a similar vein, organochlorine compounds challenged a notion of the discrete, chemical threat that acted at a particular dose and in isolation to negatively affect osprey life. For an osprey or other raptor consuming pesticide compounds, they might 'suffer from a collective organo-chlorine load'. The eggshell thinning that resulted might be of a magnitude greater than that which the concentrations of the 'individual compounds' involved might not alone have been sufficient to cause.<sup>656</sup>

Toxic avian bodies therefore expressed eggshell thinning as a result of the assemblage of organochlorine compounds meeting with a bird's particular metabolism, immersed as part of an open body-system in a toxic environment.<sup>657</sup> As John Philips writes of the notion of assemblage in relation to 'the body poisoned', such a body is best understood of as 'a state of becoming'. The toxic outcome is neither reducible to body nor poison; it always concerns their participation together in the *event* of poisoning.<sup>658</sup> In the same way, the de-territorialised osprey body emerged as concentrations accrued and interacted in relation, disavowing understandings of inert or separable bodies and materials, each apportioned with causative agency. Hazardous pesticides 'intra-acted': their forms and affects were inseparable from the relational meetings between each other as new articulations of material and avian agency emerged.<sup>659</sup> Birds that couldn't breed, the metabolites of DDT found within failed eggs and the contaminated fat stores of dead raptors were just a few of the emergent entities accompanying the overspill of a military-

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<sup>655</sup> Hinchliffe S (2001) 'Indeterminacy in-decisions – science, policy and politics in the BSE (Bovine Spongiform Encephalopathy) crisis' *Transactions of the Institute of British Geographers* **26**(2): 189.

<sup>656</sup> Newton I (1979): 247.

<sup>657</sup> Alaimo S (2010) op cit.

<sup>658</sup> Phillips J (2006) 'Agencement/Assemblage' *Theory, Culture & Society* **23**(2-3): 109.

<sup>659</sup> Barad K (2007) op. cit.: 139.



industrial biosecurity. There always remained every possibility that DDT, dieldrin and the osprey might still 'become something else' or 'morph to conjoin with other materials' in completely unexpected ways.<sup>660</sup>

As a second source of uncertainty, it was also the case that attempts to measure and discern the full effects of pesticide contamination were stymied – even for species more abundant than the osprey – by the awkward biopolitics of bird of prey conservation in Britain. The kinds of encounters and involvements permitted were limited by concerns around safeguarding endangered avian bodies. Even those like Ratcliffe, working within the NC and its long-term pesticide monitoring programme, struggled to amass enough samples to quantify the processes he was hypothesising. Ratcliffe, like Waterston in his pondering over how to explore the dimensions of the pesticide threat on Speyside, relied upon information compiled by others in different spatial-temporal contexts, and with different understandings of what constituted appropriate forms of ornithological practice. Alongside relying upon the work of American ornithologists 'to prove the connections with pesticides' he also mobilised work collected via more awkward and violent means, such as laboratory experimentation.<sup>661</sup> Similarly, a great corpus of data on eggs, fertility and eggshell thicknesses was to be found within the published and privately recorded observations of egg-collectors. There is a certain irony, given the animosity directed by bird protectionists towards the oological fraternity, that the careful observations and measurements of eggs collected prior to the 1950s came to constitute such an important baseline for comparing eggs laid prior to and post extensive pesticide contamination. Desmond Nethersole-Thompson was one of those acknowledged in several of Ratcliffe's published works, providing expertise and data that helped map the decisive trends in eggshell thickness.<sup>662</sup>

The on-going investigations into the disruptive influence of organochlorines upon osprey breeding mechanisms (as well as those in some other rare species) were continually hampered by the fact that ospreys and other raptors, 'were of conservation value and could not be collected, and sacrificed for chemical

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<sup>660</sup> Gregson N et al (2010) op cit.: 1067.

<sup>661</sup> Letter from Derek Ratcliffe, The Nature Conservancy, Monks Wood Experimental Station to George Waterston (13 December 1968) op cit.

<sup>662</sup> Specifically see Ratcliffe D (1967a) op cit.; and Ratcliffe D (1970) op. cit.

analysis.’<sup>663</sup> The work begun by the NC at Monks Wood in 1964 relied instead upon scientists being sent specimens, recovered dead either by field ornithologists or sympathetic members of the public. As avian biologist Ian Newton later wrote of this uncertain work:

‘By the time the impact of organo-chlorines had been realised, some raptors had become extremely rare, and analyses of residue had to be restricted to specimens found dead or to unhatched eggs. In consequence, samples were often small and collected less randomly than biologists would have liked. Only in later studies on commoner species was it possible to obtain large random samples for chemical analysis and to collect eggs fresh before their fate had become apparent.’<sup>664</sup>

It is clear that the osprey constituted a particularly awkward subject for such investigation. The possibility would also remain open, as Radcliffe theorised, that ospreys were ‘unusually sensitive’ to toxic chemicals.<sup>665</sup> Here the possibility of further uncertainty tested the strength of causal linkages based in the amalgamated population experience of ‘raptors’, and their supposed raptor ‘nature’ (with singular bodily, chemical, and scientific involvements). Ospreys demonstrate their own natures that remain contextual, multiple, and uncooperative with such universalising explanatory models. However, attempted analyses of the (very) few osprey eggs sent for testing from the second pair set against an extant (yet extremely partial) series of earlier eggs could not prove this assertion.<sup>666</sup> Indeed, it would remain extremely problematic to determine for *any* raptor species *exactly* how much of a compound constituted an effective sub-lethal dose.<sup>667</sup> Therefore, despite the emergence of a causal model that linked pesticide contamination with breeding failure by the end of the 1960s, the bodily functions of ospreys and the material capacities of organochlorine compounds meant their affects could never be completely settled on Speyside.

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<sup>663</sup> Cooke A et al (1982) op cit.: 10.

<sup>664</sup> Newton I (1979) op cit.: 231.

<sup>665</sup> Letter from Derek Ratcliffe, The Nature Conservancy, Monks Wood Experimental Station to George Waterston (13 December 1968) op cit.

<sup>666</sup> For a discussion of the limited number of osprey eggs held in private and museum egg collections dating from prior to the species’ British breeding extinction in 1916 see McGowan R (2009) ‘The decline of the Scottish Ospreys: who was to blame?’ *Scottish Birds* 29(1): 55-58; Letter from Derek Ratcliffe, The Nature Conservancy, Monks Wood Experimental Station to George Waterston (13 December 1968) op cit.

<sup>667</sup> Some of Ratcliffe’s investigations into peregrine nest failures suggested there was a small averaged difference in organochlorine concentrations between those eggs that failed and those that did not. He describes this comparison was ‘not statistically significant but [...] suggestive’: Ratcliffe D (1967b) op cit.: 241.

## Chemical legacies of concern

Other variables that could affect a negative response to pesticides in the avian body would later be proposed from the on-going work of the NC. Body fat stores fluctuated seasonally with food availability and migration patterns, releasing chemicals back into circulation through the vital organs. Some chemicals (like dieldrin) also displayed embryo-toxic effects. If a female bird contained high levels of toxins these could be expelled within the yolk, generating toxic developmental conditions for the almost-osprey.<sup>668</sup> Regardless of the limits to explaining the contextual specifics of observed responses to contamination, by the 1970s it was widely accepted that organochlorine compounds were 'biologically active' at sub-lethal concentrations. Such materials were affecting populations far from their initial sites of application, with the capacity to potentially 'cause extinctions' if left unchecked.<sup>669</sup> DDT was banned in the United States in 1972, and in Britain by 1985.<sup>670</sup> By 1975, osprey numbers had increased at sites like Gardiner's Island, New York. Here, in a story with parallels across the US, the large osprey colony had suffered a massive crash from 300 nesting pairs and 600 young per annum in 1948 to a low of around 50 nests and 4 fledging young in 1965.<sup>671</sup> In such extreme cases, populations would take many years to recover. Dieldrin and aldrin had been generally phased out in Britain by the early 1970s under the recommendations of the 1967 Poisonous Substances Advisory Committee.<sup>672</sup>

Yet, across the geographies of their application and production, toxic fall-out would endure in both environments and bodies.<sup>673</sup> Despite bans and declines in use, an inert and mobile materiality rendered organochlorines a lingering presence in osprey nests and bodies. The geographies of toxicity were merely displaced as the use of organochlorine chemicals continued abroad, particularly in developing contexts where the risks to human life were accepted as an acceptable cost of

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<sup>668</sup> See the findings of Cooke A et al (1982) op cit.

<sup>669</sup> Newton I (1979) op cit.: 252.

<sup>670</sup> Ross B and Amter S (2010) op cit.; Sheail J (2013) 'Pesticides and the British Environment: An Agricultural Perspective' *Environment and History* **19**(1): 87-108.

<sup>671</sup> Puleston D (1975) 'The Return of the Osprey' *Natural History* **84**(2): 52-59 – RSPB Sandy, The Lodge library, uncatalogued.

<sup>672</sup> Sheail J (1985) op cit.

<sup>673</sup> Krupar S (2013) op cit.

eradicating disease or boosting industrial production.<sup>674</sup> The migration routes of ospreys, particularly those in the USA that wintered in Central and South America, took them through toxic environments where DDT was still liberally sprayed.<sup>675</sup> To develop the arguments of both David Lulka, regarding Yellowstone bison management, and Hugo Reinert, regarding the Baltic landscapes of the lesser white-fronted goose, migratory species like the osprey are constituted, bodily, in terms of their movements across space. They are situated within a 'delicately contingent' migration assemblage 'within which factors in one location might reverberate elsewhere and out of sight, thousands of miles away, with consequences that could spell life or death for the whole species but which might never be witnessed by a human observer.'<sup>676</sup> Thus the impacts of organochlorines continued to be felt within osprey conservation circles through to the 1980s as they recovered elsewhere.

These kinds of chemical legacies were felt on Speyside, even as pesticides retreated as immediate matters of concern. By the end of the 1960s the numbers of osprey pairs had begun at last to show steady increases, continuing through the 1970s and 1980s. Osprey biologies appeared to be 'behaving' as expected.<sup>677</sup> Yet the shadowy presence of lethal materials sometimes reappeared, re-awakening old matters of concern. In 1975, pairs at Loch Garten and other sites exhibited 'desultory' behaviour and little interest in breeding. Eggs were laid at only half of the fourteen occupied nests and some other raptor species appeared to similarly struggle across Britain.<sup>678</sup> Observations attributed failures to 'bad weather' and the birds' 'poor physical condition.' However, one osprey egg analysed showed continuing contamination of DDE (1.1ppm), alongside concentrations of polychlorinated biphenyl (PCB): a toxic compound increasingly used as an industrial coolant since

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<sup>674</sup> This unequal geography of environmental regulation and toxic pollution is discussed at length by Nixon R (2011) op cit.

<sup>675</sup> Newton I (1979) op cit.: 252.

<sup>676</sup> Lulka D (2004) op cit.; Reinert H (2015) 'The Landscape Concept as Rupture - Extinction and Perspective in a Norwegian Fjord' in Sooväli-Sepping H, Reinert H and Miles-Watson, J (eds) *Ruptured Landscape: Landscape, Identity and Social Change* (Springer; New York & London): 47.

<sup>677</sup> Latour B (2004d) op cit.: 214.

<sup>678</sup> Dennis R (January 1976) 'Osprey Newsletter No. 4' op cit.; minutes from a meeting of the Conservation Committee (4 June 1975) RSPB Watchers Committee/Conservation Committee/Reserves and Research Committee Minutes, June 1978-March 1986 - RSPB Sandy, Classmark 01.01.11.

the mid-1960s.<sup>679</sup> Similarly, in 1983, five un-hatched osprey eggs were recovered from five of the now thirty occupied sites. The third failed egg of an otherwise healthy clutch at Loch Garten displayed the most contamination, with high concentrations of both DDE (11.3ppm) and PCBs (15.8ppm).<sup>680</sup> In the case of 1975, these concentrations were thought only to be capable of inducing 'a small degree' of thinning'.<sup>681</sup> However, some laboratory evidence would subsequently suggest to conservationists that together with DDE, PCB might cause both a delayed laying and lower breeding output.<sup>682</sup> Again, it was difficult to determine what role pesticides, as non-linear and lively materials, played in those osprey failures.

As the osprey population continued to rise, and despite the continued presence of such residues, the compounds appeared to no longer attract as much concern on the part of osprey conservationists. Whenever they did appear they revealed the enduring uncertainty over whether, and in what quantities, such agents were active in the osprey's environment. New matters of concern like PCB, would also prompt questions over the toxic futures of the osprey's environment, and the possibility for new chemicals bringing forth new forms of assembled material threats in the bodies of ospreys. Such human-produced toxic agents continue to demonstrate an epistemological uncertainty.<sup>683</sup>

## 6. Conclusion

This chapter has used the failed nesting attempts of a 'second pair' of ospreys on Speyside between 1963-1968 to conceptualise the awkwardness of osprey biopolitics in the face of the uncertain and harmful agency of organochlorine pesticides. This awkward biopolitics is characterised by having to mobilise the bodies of other, more expendable species as a proxy means to generate partial understandings concerning the nature and extent of chemical concerns. I have argued that osprey life on Speyside existed within a broader environment, the conditions of which were affected by the overlapping biosecurity project of post-war food security. Amidst

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<sup>679</sup> See particularly Prestt I, Jefferies D, and Moore N (1970) 'Polychlorinated biphenyls in wild birds in Britain and their avian toxicity' *Environmental Pollution* 1: 3-26.

<sup>680</sup> Dennis R (7 January 1984) Osprey Newsletter No. 10, details of the 1983 breeding season in Scotland – SOC, 'Raptors', Box 19.

<sup>681</sup> Dennis R (January 1976) Osprey Newsletter No. 4, op cit.: 2.

<sup>682</sup> Newton I (1979) op cit.: 247.

<sup>683</sup> Krupar S (2013) op cit.: 286.

the documented declines of other birds of prey, both in Britain and abroad, the failure of a second pair of ospreys to hatch young aroused suspicion. An analysis of their eggs confirmed that successful reproduction was being disrupted by the involvements of less perceptible agents and their infiltrations into the avian body. It was a threat against which the direct protections could do little. Determining the presence of such chemicals in the environment involved deploying understandings of their materiality and mobility through an investigation that proceeded obliquely, by way of the less-endangered or more readily sacrifice-able nonhumans that also dwelt on Speyside. The bodies of such beings, by virtue of being bound up in the same environmental flows as the osprey, could shed limited light on the toxicity of a shared environment.

Within the theories of chemically-induced pathologies actualised as a result of sub-lethal concentrations I have drawn on Deleuze and Guattari's notion of the 'body without organs' to figure the disruptive affects of organochlorines. The osprey organism was de-territorialised as a result of bodily contaminants, producing versions of the birds' biology incapable of breeding. This theoretical understanding of the effects that organochlorines were seen to have contextualises the planned approach by which the eggs could be artificially incubated, and the breeding biology of the osprey re-territorialised and insulated against, by the RSPB. In turn, however, further uncertainties emerge amidst attempts to open the 'black box' of osprey breeding biology. The incubation plan therefore reveals how osprey life was understood within the RSPB's plans. Finally, I have further argued for the role that an awkward biopolitics of raptor science played in the attempts to formulate a causal model for chemical impacts upon birds of prey. These uncertainties reflect the difficulty of investigating and monitoring small or endangered populations of birds, like the osprey. Such practices are particularly fraught in the context of the enduringly emergent and nonlinear agency of toxic chemicals, and their disruptive influences upon raptor biology. Whilst the osprey would reassert itself in Scotland over the 1970s, and the use of organochlorine chemicals markedly decreased, certain encounters hint at the longevity of more complex chemical legacies (as well as possible chemical futures) and the material agencies that continued to shape the conditions for osprey life on Speyside.

DDT and other organochlorines, like many synthetic materials, presented a conundrum for osprey biosecurity: they were not inert, easily containable, or even well understood.<sup>684</sup> Instead, protecting life from the threats of a lethal materiality meant facing the matters of concern, both with regards to pesticides and the gaps in human knowledge about birds, that DDT gathered up. Pesticides proved to be materials with real agency to affect the assemblages into which they were introduced. Rather than being stable, fixed entities they exhibit matter in Karen Barad's terms as vibrant, performative, and nonlinear in the expression of their lethal capacities and natures.<sup>685</sup> Rather than a biosecurity of breach points, the problem of pesticides confronted the RSPB, with its limited budget, technical capacity, and biological understanding to attempt to respond to a threat that operated through relational tipping points of contamination, without knowing what those were or how to do so.<sup>686</sup>

In closing the chapter, I want emphasise that such an awkward biopolitics also actively promoted consideration for the osprey as an immersed body-in-the-environment, co-constituted through its material relations with other beings and matter. As the feminist-materialist scholar Stacey Alaimo suggests, instances of bodily contamination can offer fruitful moments of reflection in which to consider a more materialist form of environmental ethics. Toxic bodies, she writes,

'encourage us to imagine ourselves in constant interchange with the environment and, paradoxically perhaps, to imagine an epistemological space that allows for both the unpredictable becomings of other creatures and the limits of human knowledge.'<sup>687</sup>

For the Speyside ospreys (or more accurately, for those who nurture their return from extinction) there was never a definitive conclusion regarding the contamination of the Scottish environment by organochlorine pesticides, beyond the resounding agreement that it was having demonstrably negative outcomes. The majority of eggs analysed in the 1960s and 1970s showed low concentrations of pesticides and yet there were continuous failures at the nests of the second pair. Their insidious characteristics saw DDE and dieldrin emerge in the nests of a

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<sup>684</sup> Krupar S (2007) op cit.

<sup>685</sup> Barad K (2003) op cit.; Barad K (2007) op cit.

<sup>686</sup> Hinchliffe S et al (2013) op cit.

<sup>687</sup> Alaimo S (2010) op cit.: 22.

protected species in surprising and sinister ways. In part, this reflects the materiality of organochlorine pesticides: their long-term stability as residual compounds, capable of becoming concentrated in and subsequently interacting with the bodies of particular creatures to distort their vital biological functions. But the case of ospreys and DDT on Speyside also questions *why* connections between polluting substances and pathological affects were so difficult to establish. This example reveals how plans for protection can be made alongside forgetting the bird as an actual living, material biological body. Knowing little of osprey physiology, conservationists were less inclined and more wary of becoming involved in such processes.

In its uncertainties and its emergence the toxic osprey refuses a disembodied account. It likewise refuses a disembodied, dematerialised environmental ethics in favour of something tangible, grounded, connected and situated. The possible affects of organochlorine contamination on Speyside emphasise the situation of these birds, and a broader environment, within the wider military-industrial complex that had 'far-reaching and often unforeseen consequences' across space, species and social connections.<sup>688</sup> The unleashing of risky agencies constituted an irresponsible collective experiment driven by a desire to quickly achieve states productive of capital. Toxic ospreys demonstrate that care and attention to lively and uncertain material conditions are required to build worlds that can host both humans and other creatures. We must compose better than DDT suggests we have.<sup>689</sup>

The plight of the osprey on Speyside during the 1960s, and its conditions for flourishing, can and should be connected to the more extensive historical geographies of capitalism's industrial environmental involvements.<sup>690</sup> In amongst the chemical concerns on Speyside, there is resource for a political animal geography that both exceeds and disavows any notion of the bounded or local in the material and bodily involvements of animals and their geographies.

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<sup>688</sup> *Ibid.*

<sup>689</sup> Latour B (2004b) op cit.

<sup>690</sup> Endorsing the sentiments of Johnston E (2015) op cit.





# Chapter 5

## Hidden involvements

*Five expressions of human-osprey proximity*

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### 1. Introduction

**July 1962:** Scottish screenwriter and novelist Hugo Charteris visited the ospreys at Loch Garten at the height of the summer season, writing of his experiences for *The Telegraph*. He described the work being done in the forward hide by RSPB wardens watching over the birds:

In a little pitch pine hut, like a frontier observation post between the River Spey and the hills, a young man raises his eyes from the Bible and applies them to a pair of massive fixed binoculars such as are put before generals to watch H bombs. Then in a notebook he writes:

1348: *Chick stands up; stretches left leg.*

Back then to Genesis. Two verses later another glance upwards takes him back to the eyepiece.

1351: *Chick stretches right leg; lies down.*

Thus the vigil continues day and night over Britain's one and only pair of ospreys and their single child.<sup>691</sup>

This description gestures to what Latour might label the 'missing masses' of ornithology: a constellation of material devices and objects together constituting a 'framing assemblage' through which wardens become perceptually involved with ospreys.<sup>692</sup> The capacities of the human body were both directed and extended towards the nest tree via various sensitising devices: 'a massive pair of fixed binoculars,' 'a notebook' and 'a little pitch pine hut' are a few mentioned directly in

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<sup>691</sup> Charteris H (July 1962) 'All Eyes on the Osprey' *The Telegraph* [Newspaper cutting] – RSPB Sandy, Classmark 01.05.709: 4.

<sup>692</sup> Latour B (1992) 'Where Are the Missing Masses? The Sociology of a Few Mundane Artefacts' in Bijker W and Law J (eds) *Shaping Technology* (MIT Press; Cambridge MA): 225-258; Lorimer J (2008) op cit.: 379.

Charteris' account of Loch Garten. The material assemblage of the hide allowed wardens to get closer to birds to both guard them against threats and attend to the minutiae of nest life.

Whilst previous chapters were concerned with the biopolitics of Operation Osprey, here I turn attention to the work of surveillance and 'knowing' bird life, as carried out at Loch Garten in the project's first three decades. Such monitoring work is, of course, inseparable from the involvements of biosecurity, but here my concern is how hide work has enacted a multiplicity of osprey natures.<sup>693</sup> One might label it a 'posthumanist' account of ornithology, less concerned with the 'knowledge' produced than in questioning 'the givenness of the differential categories of 'human' and 'nonhuman''.<sup>694</sup> I explore how various 'versions' of being and boundaries are conjured and made to endure, with the birds appearing in relation as scientific objects *and* lively, geographical kin.<sup>695</sup> The chapter presents five expressions of human-osprey proximity that emerge via the 'hidden involvements' enacted historically through the space of the hide.

I therefore follow Dominique Lestel's argument for considering interspecies relations as the function of establishing 'proximities'.<sup>696</sup> Such relations of closeness between beings have a history and an 'active materiality' through which their co-constitutive involvements unfold. As he wryly notes, 'what good is a snake-charmer without a basket?'<sup>697</sup> I take this cue to investigate the material 'architecture' of hide work and logging osprey life as involving the management of different relations of perceptual and bodily proximity. The assembled entity of the bird hide (or 'blind') connects the experience of both the humans inhabiting it and the ospreys towards which they are oriented and in whose surroundings they seek to dwell. Following Haraway's notions of contact zones and attachment sites, I attend to the specificities of where and how humans and ospreys meet in encounters that are 'historically

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<sup>693</sup> See previous discussions concerning monitoring and conservation biopolitics in the work of Biermann C and Mansfield B (2014) op cit.; Lorimer J (2006) op cit.; (2008) op cit.; Srinivasan K (2014) op cit.

<sup>694</sup> Barad K (2003) op cit.: 808.

<sup>695</sup> Matless D (2000a) op cit.: 116.

<sup>696</sup> Lestel D (2002) op cit.: 57.

<sup>697</sup> Lestel D (2002) op cit.: 58.

located, multispecies, subject-shaping'.<sup>698</sup> Relationships of proximity between humans and ospreys are worked out through the hide as a site of contact. Being able to protect the birds required being close enough to them that wardens could spot, and prevent, any act of disturbance from the public or someone with malicious intent. To observe the birds and record in detail their behaviour meant getting closer still – often by way of some of the devices already mentioned – to become attuned to the osprey's ecology, behaviour and lifeworld.

This discussion makes heavy use of the archived logbooks transcribed at Loch Garten during the period 1957-1987. This is a documentary resource produced (for the most part) in and through the apparatus of the forward hide. The chapter will characterise logging practice as a materially assembled and perceptually driven involvement in osprey life, emergent as bodies are immersed 'in' technical devices that affect both proximity and enhanced sensory capacities.<sup>699</sup> The discussion here is primarily limited to between 1957 and 1989: a constraint due to the availability of material that also terminates with the introduction of CCTV at Loch Garten and the lessening of an explicit need for wardens' *bodily* proximity to the nest. Drawing on this collection of sources, the five sections that follow each characterise a differentiated expression of human-osprey 'proximity'. The chapter argues that an attention to ostensibly 'hidden involvements' reframes the assembled space of ornithological knowledge production at Loch Garten as one brimming with multiple, overlapping ontologies and their associated spatialities.

I begin with an idealised notion of hide work characterised in the recent scholarship of historian of photography Matthew Brower: that the hide affected an *invisible* human presence near to a fragile and flighty subject.<sup>700</sup> Invisibility, in turn, enacts an objective gaze – a 'view from nowhere' – and the hide produces a sensitised yet detached perceptual involvement. Proceeding, I describe how such close attention generated an epistemological-ethical curiosity to expand upon and incorporate lively osprey behaviour within the language of the log. Through creative improvisations, wardens extended the language of logging to meet the demands of

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<sup>698</sup> Haraway D (2008) op cit.: 205.

<sup>699</sup> Ihde D (2002) *Bodies in Technology*.

<sup>700</sup> Brower M (2011) op cit.

observing osprey life. At night a more disorientated relationship of proximity arose in part from a failure to extend vision. This required a close sensory involvement with the birds as a fellow dwelling and perceiving presence in the landscape, sometimes leading to moments of false alarm. Finally, I argue that hide work comprised a matter of *negotiated* proximity that sees the hide not as an invisible structure, but a tolerated one.

## **2. Invisible proximity: the logic of hide use at Loch Garten**

To begin with, in order to protect and watch over their attempted re-colonisation, the RSPB had to get close to ospreys. As I describe in Chapter 3, the osprey was figured as a skittish bird, intolerant of human proximity and liable to desert following disturbance at its eyrie. Experience on Speyside during 1955 and 1956 saw the RSPB fail to locate and secure a nest site before some incident had disrupted the attempts of the birds to breed. However, George Waterston's plans for defence, devised to prevent this very occurrence, required that both he and his team of militarised wardens get as close as possible to the birds so as to effectively guard against intrusion. They therefore required a means to affect an invisible proximity; to mask human presence from the osprey. The solution to this dilemma, as ornithologists had long realised, was to watch from a hide. I therefore begin this chapter by considering the history of the bird observation hide and the logic of its use within an ontology of invisible proximity at Loch Garten.

### **Hiding from ospreys**

The desire to hide from the animal is bound up with the Derridean recognition that, as Eduardo Kohn articulates it, the animal looks back with a gaze that matters.<sup>701</sup> Hiding from ospreys is therefore as much a question of what the osprey perceived and how it was affected by a visible human presence. An early desire to hide from the bird is expressed in the accounts of sportsman-naturalist Charles St. John (discussed further in Chapter 7). During his infamous shooting and collecting tour in Sutherland in the early 1840s, he describes stalking a male osprey along the shore of Loch an Iasgair whilst his associate took eggs from the nest.<sup>702</sup> Creeping close, St.

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<sup>701</sup> Kohn E (2013) *How Forests Think: Towards an Anthropology Beyond the Human*: 1, 221.

<sup>702</sup> St. John C (1884 [1849]) *A Tour in Sutherland with Extracts from the Field Books of a Sportsman and a Naturalist*, Vol. 1 (2<sup>nd</sup> Edition): 90-93.

John feared should the bird see him it would alight and flee. The practice of hiding and stalking within hunting practice was in order to outmanoeuvre one's prey, a fellow dwelling being in the world, by way of careful movements, active perception and experience wrought in past encounters.<sup>703</sup> Latterly, technical solutions, like the hunting hide or the nineteenth century grouse butt, would prove a means to screen the body from view. One no longer needed to test one's wits against the animal in the wild; to hide was to 'outwit' ones prey.<sup>704</sup>

At Loch Garten the desire to hide came via a different lineage that had adapted such hunting techniques to a less bloody form of pursuit. Upon discovering a possible nest site in the Sluggan in 1955, and then later the larger eyrie within marshland to the south of Loch Garten in 1956, George Waterston prepared plans such that when the ospreys arrived to breed they could be guarded, observed for ornithological study, and eventually made accessible to the public.<sup>705</sup> Like the hunter, in order to protect and observe these birds, wardens had to get close to them so that they could be on hand to observe the birds and prevent others from approaching. As described in Chapter 3, the defence of the nest area and strategies such as secrecy around osprey nest sites were means to carve out space in the landscape for the species to dwell despite the involvement of humans. This was a shy bird, easily startled from the nest.<sup>706</sup> Its appropriate environmental conditions were idealised as quiet and calm, and the Society sought to enact these here. The gaze of the RSPB thus sought to be one that 'withdrew itself [...] concealing the act of observation from its object'. This was a 'non-reciprocal, asymmetrical' gaze that required one to be invisible.<sup>707</sup> Humans were present to osprey life without 'joining in the gathering'.<sup>708</sup>

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<sup>703</sup> Ingold T (2000) op cit.: 69, 71.

<sup>704</sup> Brower M (2011) op cit.: 131; see also the account of stalking a flock of geese given in St. John C (1884) op cit.: 210-211; and the discussion of Lorimer H (2000) 'Guns, game and the grandee: The cultural politics of deerstalking in the Scottish highlands' *Ecumene* 7(4): 410-413.

<sup>705</sup> Waterston G (undated - presumed late 1955/early 1956) 'Strictly Confidential, Operation Osprey', op cit.

<sup>706</sup> Sandeman G (1958) 'Osprey (*Pandion haliaëtus*)' *The Rarer Birds of Prey: Their Present Status in the British Isles*, RSPB Occasional Publication No. 28, op cit.

<sup>707</sup> Reinert H (2013) op cit.: 21.

<sup>708</sup> Ingold T (2010) op cit.: 5.

When a single bird arrived at the south Garten nest in 1957, Waterston erected a hide fashioned from 'an old tarpaulin, hessian, lashings, tools etc.' donated by the Seafield estate office.<sup>709</sup> It had a covered approach so that the bird did not see the human entering the structure. There, at a distance of nearly 200 yards from the nest, a small group of RSPB staff and Nature Conservancy wardens kept watch as a lone male frequented the eyrie in 1957 and a pair attempted to breed there in 1958, before their eggs were taken. On duty, watchers sat on an uncomfortable wooden box and attempted to record the birds' comings and goings. At night, the second warden lay a short distance behind the hide in a small tent – a string attached to their wrist should they need to be alerted. A whistle and cosh were stored in the hide should there be a need to come to the birds' defence.<sup>710</sup>

### **An invisible presence**

There emerged, therefore, essentially two parallel motivations for the use of a hide at Loch Garten. The first was to ensure that osprey protectionists could maintain a distance from the 'fragile' birds they sought to protect: recognition that, in the case of osprey flourishing, maintained distance from humans was required.<sup>711</sup> The second motivation, which I describe further in the following section, relates the desire to study animals in nature free from human influence.<sup>712</sup> In Despret's terms, this is the notion that for objective science, 'bodies shouldn't interfere in a properly scientific research process'.<sup>713</sup> In both senses, then, the hide intended to perform what Donna Haraway refers to as a 'god trick': providing a 'view from nowhere' onto osprey nature by removing oneself from the situated conditions and affects of that perception.<sup>714</sup>

The logic of this hide work at Loch Garten reflected the wider transition in ornithological practices towards a visual mode of encounter with birds, facilitated by optics that enhanced the eye's reach.<sup>715</sup> Devices like the telescope, binocular or camera – the latter with improvements in lenses, film and lighter-weight hardware –

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<sup>709</sup> Waterston G (22 April 1957) 'Ospreys in Speyside', op cit.: 2.

<sup>710</sup> Waterston G (22 July 1958) 'Operation Osprey –1958', op cit.

<sup>711</sup> Metcalf J (2008) op cit.: 115.

<sup>712</sup> Ingold T (2000) op cit.: 67.

<sup>713</sup> Despret V (2013b) op cit.: 52.

<sup>714</sup> Haraway D (1991) op cit.: 189.

<sup>715</sup> Moss S (2004) *A Bird in the Bush: A Social History of Birdwatching*.

emerged as an alternative – or a ‘sublimation’ in Sontag’s terms – to the gun as the primary instrument of field naturalism.<sup>716</sup> Wildlife photographers adapted and borrowed many of the material-bodily practices of hunting, relying upon ‘the familiar stalking routine of the sportsman’ when navigating the habitats of their subjects.<sup>717</sup> Field naturalists wore ‘clothes of as quiet a colour as possible’ to get as close to birds, bridging the remaining gap with a telephoto lens.<sup>718</sup> Given that a good picture took time to arrange and expose, photographers, like brothers Richard and Cherry Kearton, turned to the hide as a means of both getting and *remaining* close to wild birds, seeking to capture true images of nature *in situ*.<sup>719</sup> Soon they and others had developed hides for concealing camera equipment. Cameraman Cherry Kearton was variously disguised to resemble objects that would provoke no alarm in the sitting bird, such as a rubbish heap or a tree stump.<sup>720</sup> In this way hides soon became an established part of the material assemblage of devices that enabled sustained and detailed observation of bird life. More avowedly scientific approaches to ornithology, and proponents including Julian Huxley and Max Nicholson, advocated the close and detailed study of bird life from the mid-1930s onwards, encouraging hide use in proportion to ‘the wariness and self-consciousness of birds under observation’.<sup>721</sup> By 1940, notable bird photographers such as Eric Hosking and his associates were describing hide work in their accounts of both photographing and observing subjects from a range of bird species.<sup>722</sup> Today, such structures are recognisable at any nature reserve, including Loch Garten.<sup>723</sup>

In his work on the history of photography, Matthew Brower conceptualises the ‘work’ done by the hide device in the environment on behalf of those using it.

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<sup>716</sup> Ryan J (2000) ‘Hunting with the camera: Photography, wildlife and colonialism in Africa’ in Philo C and Wilbert C (eds) *Animal spaces, beastly places: new geographies of human-animal relations* (Routledge; London & New York): 203-221; Sontag S (1979) *On Photography*: 14-15.

<sup>717</sup> MacDonald F (2003) *Geographies of Vision and Modernity: things seen in the Scottish Highlands*. DPhil thesis, University of Oxford: 129.

<sup>718</sup> Bedford E (1909) *Nature Photography for Beginners*. JM Dent & Sons; London: 33.

<sup>719</sup> Kearton R and Kearton C (1898) *Nature and a Camera: Being the Adventures and Observations of a Field Naturalist and an Animal Photographer*: ix.

<sup>720</sup> Kearton R and Kearton C (1899) *Wild Life at Home: How to Study and Photograph It*: 10-11 [tree stump], 18-19 [rubbish heap].

<sup>721</sup> Nicholson M (1932) op cit.: 36; on the ‘New Ornithology’ see Law J and Lynch M (1988) op cit.; Macdonald H (2002) op cit.; Toogood M (2011) op cit.

<sup>722</sup> Hosking E and Newberry C (1943) *Intimate Sketches from Bird Life*. Country Life Ltd; London.

<sup>723</sup> Callaghan D (2010) *The History of Bird Watching in 100 Objects*: 204.



Offering the promise of Haraway's view from nowhere, a hide disrupted and changed the form of the human body, obscuring it within a 'neutral' object that would prompt no response from the bird. In the promise of closeness without any mediating involvement, the user engaged in a voyeuristic encounter with 'true' nature, their presence rendered to that of a ghost.<sup>724</sup> As Brower writes:

'Because the blind made the observer's presence unobservable to the birds, the photographs show us the birds acting as if we were not there (because for them we are not). What we see is what we would see if we were not there. The photographic blind presents these photographs to us as photographs taken as if we did not exist. The photographic blind allows its occupant to conduct an unprecedented observation of animals.'<sup>725</sup>

The hide rendered inhabitants invisible because it was, essentially, an *invisible structure* within the bird's world. The use of hides was imbued with certain assumptions about the osprey, its lifeworld and its perception. A rubbish heap or tree stump were not objects that unduly affected birds in any way. Ospreys were held not to respond to a hessian or wooden hide because, to draw from the ethological theory of von Uexküll, such objects did not fit with their 'search image' of what constituted a threat.<sup>726</sup>

Thus Waterston's structures initiated a 'constitutive withdrawal' for the humans inside them. Allowing wardens to be present to but not a participant in the unfolding of the osprey's world, these were devices for dis-involving.<sup>727</sup> Human presence was effectively 'bracketed out' within the hide, granting ornithologists access to an objective perspective on avian existence, free from the mediating affects of an observing body.

### **3. Objective proximity: seeing ospreys like a scientist**

Whilst a hide made of old sacking allowed wardens close to the osprey's nest in both 1957 and 1958, it was also 'cramped and uncomfortable'. Once inside, the warden peered out through a small slit at the nest some 200 yards away. The position of the shelter and the limited aperture meant 'a number of taller trees made

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<sup>724</sup> Reinert H (2013) op cit.: 22.

<sup>725</sup> Brower M (2011) op cit.: 122.

<sup>726</sup> See Chapter 6 for a more fulsome discussion of the work of von Uexküll J (2010) op cit.

<sup>727</sup> Reinert H (2013) op cit.: 7, 22.

it impossible to see very far' to either side of the eyrie.<sup>728</sup> When the birds returned in 1959 to their now-famous nest to the northeast of the Loch, Waterston invested in greater defences and a new hide. Within these roomier lodgings, wardens observed the first of many successful seasons unfold, able to record far more detailed notes on osprey behaviour.

Just as the more emotive, affective narratives of birdlife that characterised early twentieth century writing on birds had given way to an emphasis on standardised, scientific methods of data collection, so too did the hide at Loch Garten become a space for disciplining, directing and enhancing the perceptual involvements of wardens in osprey life.<sup>729</sup> Emulating the post-war studies of individual species at the heart of a burgeoning 'new naturalism', Waterston sought to cultivate the same sustained observational rigour that he and other prisoners' of war had displayed, now to the ends of gathering of data on the ospreys' activities by teams of volunteers in the hide.<sup>730</sup> From their screened shelter, humans would objectively record and study wild osprey life 'as if through a peep hole'.<sup>731</sup> More than just a structure allowing proximity, the hide was outfitted to both extend and define this relationship; a framing assemblage replete with various sensitising devices enacting a particular human observer and a particular set of notions regarding the osprey nature with whom they were to become involved in the production of knowledge.

### **A hide for detailed observations**

The new sectional wooden hide was 'a positive luxury'. The limitations of the old structure had made for rather 'dull watching' with wardens able to see little bar the female's head over the edge of the nest.<sup>732</sup> It had proven hard to keep neat, detailed or coherent notes in the dank and 'damned dark' conditions.<sup>733</sup> As logging drew upon a primarily visual engagement with the birds, the material placement of the hide greatly affected what could be seen and thus how 'interesting' the ospreys on

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<sup>728</sup> Brown P (1962) op cit.: 37.

<sup>729</sup> Macdonald H (2002) op cit.

<sup>730</sup> See in particular accounts such as Buxton J (1950) *The Redstart*; Nethersole-Thompson D (1951) *The Greenshank*; (1966) *The Snow Bunting*.

<sup>731</sup> Haraway D (2006) op cit.: 108.

<sup>732</sup> Brown P (1962) op cit.: 37.

<sup>733</sup> Waterston G (22 July 1958) 'Operation Osprey -1958', op cit.; entry from the Loch Garten osprey log for the 1958 breeding season, vol. 1 of 2 (13 May 1958) - RSPB Forest Lodge, uncatalogued microfiche, 1959 log, Sheet 1.

watch appeared.<sup>734</sup> To the northeast of Loch Garten, the improved hide was sited in a small copse of pine trees between 150 and 170 yards from the new nest site.<sup>735</sup> Here, two watchers could 'sit comfortably on chairs' and gaze over 'the whole marsh and the eyrie-tree through convenient slits' (Figure 14).<sup>736</sup>

The provision of a pair of ex-naval binoculars and, later in the season, a parabolic reflector microphone on loan from the BBC, expanded the sensory capacities of the wardens and allowed them to pay a much closer attention to nest activity. The binoculars allowed the tracking of birds between individual perches, included in the log with reference to a code that corresponded with particular trees. In turn, this attention to avian micro-geography enabled a quicker recognition of specific birds that, even with magnified vision, proved difficult to tell apart without time spent studying individuals' markings or behaviour.<sup>737</sup> Wardens could also record the delivery of fish for the first time with consistency. Recognising particular prey species allowed one to narrow down and speculate on the geography of possible feeding sites, based on knowledge of local fish stocks.<sup>738</sup> In later years, the osprey body, with an assumed length of 24 inches, was itself co-opted as a device for estimating the length of a catch.<sup>739</sup> These kinds of observations were possible due to the hide's favourable location. The importance of situation is made stark when considering the difficulties of wardens trying to record similar information at another Speyside nest site in 1967, eventually abandoning attempts to do so.<sup>740</sup>

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<sup>734</sup> Despret (2005) op cit.

<sup>735</sup> Frank Hamilton's Bird Diary 1949-1959, op cit.: 518.

<sup>736</sup> Brown P (1962) op cit.: 56.

<sup>737</sup> Waterston G (1960) 'Notes on the Breeding Biology of the Speyside Ospreys - 1959 & 1960: Part 1' *Bird Notes* 29(5) [accessed at RSPB Sandy, The Lodge library]: 131; Interview with Frank Hamilton, op cit.; Ellis R (2011) op cit.

<sup>738</sup> Interview with Stuart Taylor, op cit.

<sup>739</sup> See the instructions page for the Log Garten osprey log for the 1968 breeding season, vol.1 of 3 - RSPB Forest Lodge, uncatalogued microfiche, Sheet 1.

<sup>740</sup> Letter from Tony Taylor, assistant Loch Garten osprey warden in 1967, Strand on the Green, London to Mike Everett (1 September 1967) Letter concerning logged records from a second Speyside nest at Moormore - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.



**Figure 14: Photograph of (from left) George Waterston, Peter Conder and an obscured third individual inspecting the new forward hide at Loch Garten, April 1959. Taken by Lord David Hope – SOC, George Waterston Archive 5, Classification 3.16, Shelf 2/4, Box 289. Reproduced with kind permission of the SOC.**

Beyond vision, the highly sensitive microphone, initially provided by the BBC, picked up a variety of noises from within the nest.<sup>741</sup> Waterston would procure the Society a device of their own for later seasons, along with the first electronic alarm system on the nest tree, from Edinburgh engineers Ferranti (Figure 15).<sup>742</sup> Of the sounds recorded in the first season, these included the female panting in the sun and, later, the disputed ‘grunts’ (and more generally accepted ‘cheeps’) that signified newly hatched chicks.<sup>743</sup> By 1973, wardens were being encouraged – if proficient – to record a typology of osprey vocalisations that differentiated between

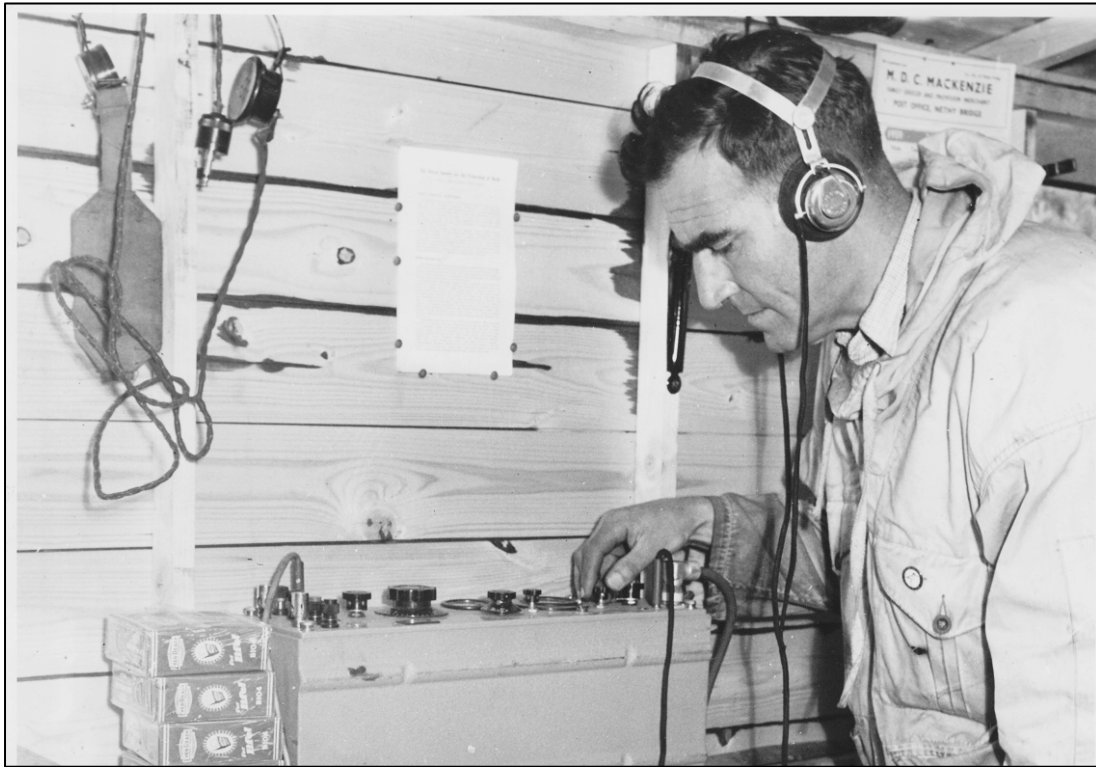
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<sup>741</sup> Brown P (1962) op cit.: 58.

<sup>742</sup> Waterston G (undated – presumed autumn 1960) ‘Ospreys in Speyside’, op cit.; Waterston (6 June 1971) ‘Comments on Theft of Loch Garten Osprey Eggs’, op cit.

<sup>743</sup> Frank Hamilton’s Bird Diary 1949-1959, op cit.: 524; Entry from the Loch Garten osprey log for the 1959 breeding season, vol. 3 of 8 (13 June 1959) – RSPB Forest Lodge, uncatalogued microfiche, 1959 log, Sheet 11.

calls soliciting food and those that suggested alarm or danger. I discuss this practice further below, but suffice it to say that no small amount of skill, together with the phonetic renderings of calls available within the logging instructions, was required to correctly typify that which was heard.<sup>744</sup>



**Figure 15: Photograph of George Waterston in the Forward Hide at Loch Garten, undated (presumed 1960s) – RSPB Sandy, Classmark 01.01.20. Reproduced with permission of the RSPB.**

It is therefore important to consider the hide as both a means of concealing the act of perceiving *and* as an assemblage of devices through which the warden perceived. Wardens were immersed in the hide and its devices.<sup>745</sup> Certainly, this new hide structure offered a much broader field of vision and a 'clear vista' of osprey approaches to the eyrie tree (except from directly behind the nest).<sup>746</sup> With this increased field of vision and the improved optical set up, those on watch were now able to record the lives of ospreys in far greater detail. Being in the hide allowed the

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<sup>744</sup> See for example the account of listening for corncrakes (*Crex crex*) by Lorimer J (2008) op cit.

<sup>745</sup> Ihde D (2002) op cit: 68.

<sup>746</sup> 'Back Hide, Night Hide, Log Book Instructions' (undated – presumed 1959), op cit.

watching human to enhance their visual – as well as aural – senses. As such the warden was affected by, and made available to the happenings of, a greater range of osprey expressions. Thus, the birding intelligence of the RSPB volunteer – their ability to register and respond to different phenomena in their surroundings in different ways – was a product of their situation in the hide environment.<sup>747</sup> As well as enacting greater sensitivity, the hide assemblage was also an ‘orientation device’ that aligned or pointed the human towards certain aspects of the world, whilst consigning others to the background of concern.<sup>748</sup> Being in the hide was to be involved in the osprey’s environment in a specific way, for specific ends, and with specific consequences for the human and avian subjects that were enacted.

### **Codifying perception and seeing like a scientist**

After two summers of collecting observations at Loch Garten and generating a great deal of written accounts Waterston attempted to extract and analyse the resulting data. Teasing out what quantitative figures he could from a sprawl of prosaic accounts, he was able to graph the time birds spent at the nest, the commencement of their incubation, the time to hatching and fledging. He also compiled totals for the delivery of fish and nest material, and the incidences of mating.<sup>749</sup> Such measurements gave hard numerical figures, allowing comparison with what was known of other osprey communities, particularly in Scandinavia. Extracting this information, however, had proven a ‘formidable task’ (for his secretary).<sup>750</sup> This was not least due to the variation in style and quality of both the writing and ornithological ability of his voluntary wardens.

As a result, Waterston sought to both standardise and ‘scientise’ the gaze of those on duty via the assembled contents of the hide and instructions for data entry. An expanded array of written materials, standing orders, instructions and diagrams, were increasingly produced, circulated and displayed in the hide to hone, direct and discipline the wardens’ perception towards particular facets of the birds’ behaviour.

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<sup>747</sup> See Thrift N (2008) op cit.: 153-170.

<sup>748</sup> Ahmed S (2006) op cit.: 4, 26.

<sup>749</sup> See Waterston G (1960) ‘Notes on the Breeding Biology of the Speyside Ospreys – 1959 & 1960: Part 1’ op cit.; Waterston G (1961) ‘Notes on the Breeding Biology of the Speyside Ospreys – 1959 & 1960: Part 2’ *Bird Notes* 29(6) [accessed at RSPB Sandy, The Lodge library]: 174-184.

<sup>750</sup> Waterston G (1960) ‘Notes on the Breeding Biology of the Speyside Ospreys – 1959 & 1960: Part 1’ op cit.: 130.

The hide thus became a space to coalesce ‘a repertoire of visual skills’ and uphold ‘professional perceptual standards’, skilling watchers in the ‘right’ way of attending to and recording osprey behaviour.<sup>751</sup> Such instructions were ‘guides or references for the action’, proliferating from the cover of the logbooks onto the walls of the wooden macrostructure itself.<sup>752</sup> As Figure 16 shows, this is still the case today.<sup>753</sup> From as early as 1961, wardens were encouraged to refer to ‘identificatory sketches provided’.<sup>754</sup> In later years, such as during a prolonged territorial dispute centred around the Garten eyrie in 1987, such paratext was vital for distinguishing between several birds if one was to maintain a standardised system of recording amidst the swarming presence of competing ospreys (Figure 17). These devices performed and reinforced a narrative of correctly involving oneself in logging practice. Volunteers were enacted as ornithological observers, contributing to a scientific investigation of osprey life, rather than simply ‘birdwatchers’.<sup>755</sup> Sketches, tree guides (described further below) and lists of abbreviations or symbols all directed the senses, authored and added to by the volunteers and more senior wardens in the production of the log across and between the distributed activity of different humans and birds.<sup>756</sup>

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<sup>751</sup> Ellis R (2011) op cit.: 776.

<sup>752</sup> Callon M (2002) ‘Writing and (Re)writing Devices as Tools for Managing Complexity’ in Law J and Mol A (eds) *Complexities: Social Studies of Knowledge Practices* (Duke University Press; Durham NC and London): 198.

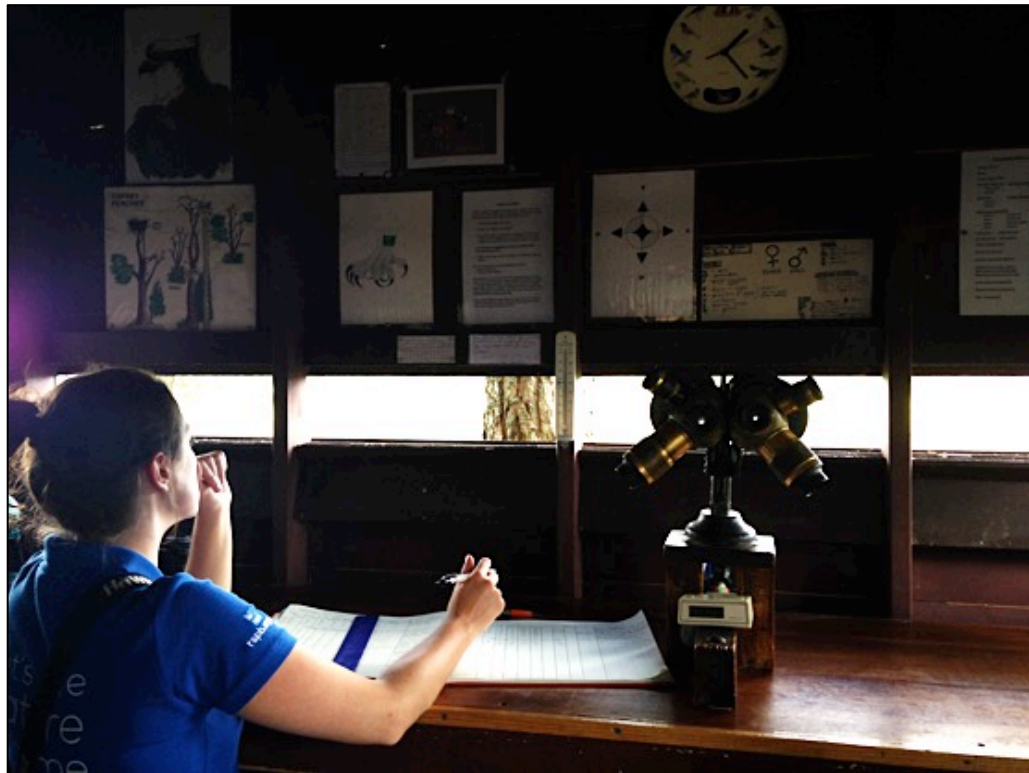
<sup>753</sup> In lieu of photographic evidence or more detailed accounts of the interior of the hide from this time, I ‘animate’ (following Davies G and Dwyer C [2010] op cit.) my account with reference to my own visits to the hide at Loch Garten, which today still displays this kind of material arrangement to assist with logging.

<sup>754</sup> The Log Garten osprey log for the 1961 breeding season, 3 volumes – RSPB Forest Lodge, uncatalogued microfiche, 14 sheets.

<sup>755</sup> Macdonald H (2002) op cit.: 61.

<sup>756</sup> Law J and Lynch M (1988) op cit.





**Figure 16:** Photograph of the interior of the forward hide, showing the materials on the walls that direct and instruct the perception of the wardens, July 2014. Taken by the author.

From 1961, logging instructions emphasised an increasingly minimalist writing style, requesting '*no anthropomorphisms please*'.<sup>757</sup> More imaginative and playful interpretations of bird behaviour – such as a warden interpreting the female osprey, her mouth agape, as a sign that she 'must want a RENNIE' – were discouraged.<sup>758</sup> Concise data amenable to a numerical analysis and the subsequent extraction of quantifiable facts about osprey nest life for graphical presentation or further comparison were favoured. A system of coding behaviours was adopted and extended: the delivery of fish (F), sticks (S) or moments of 'copulation' (C) marked with large capital letters for the analyst's convenience at the close of the season. As sociologists Bowker and Star make clear, such acts of coding and classification are neither 'innocent' nor purely discursive. Coding the log had a 'force in the world', with consequences for the way in which wardens paid and focussed attention

<sup>757</sup> Instructions page in the Loch Garten osprey log for the 1961 breeding season, vol. 2 of 3 – RSPB Forest Lodge, uncatalogued microfiche, Sheet 4.

<sup>758</sup> Entry from the Loch Garten osprey log for the 1959 season, vol. 3 of 8 (13 June 1959). op cit.



towards the birds.<sup>759</sup> It enacted, too, a conception of bird life as the composite of a series of discrete metrics to identify and record. As new codes were added or removed, attentions expanded or contracted to include other, now-relevant behaviours. Others were ignored or sent to the background by the material and textual arrangement of the hide, space affecting a perception of the phenomena to be investigated.<sup>760</sup> Such re-orientations did not equate to a more 'truthful' of account of osprey experience, but, rather, a change in terms of how articulate the birds were allowed to be in the records of those observing in the hide (as I discuss below). Waterston openly admitted that much of this work was approximation: volunteers observing at 'a range of 150 yards, with a slightly inclined view up to the 40 foot-high eyrie' would find it difficult to know *for certain* what they were seeing.<sup>761</sup>

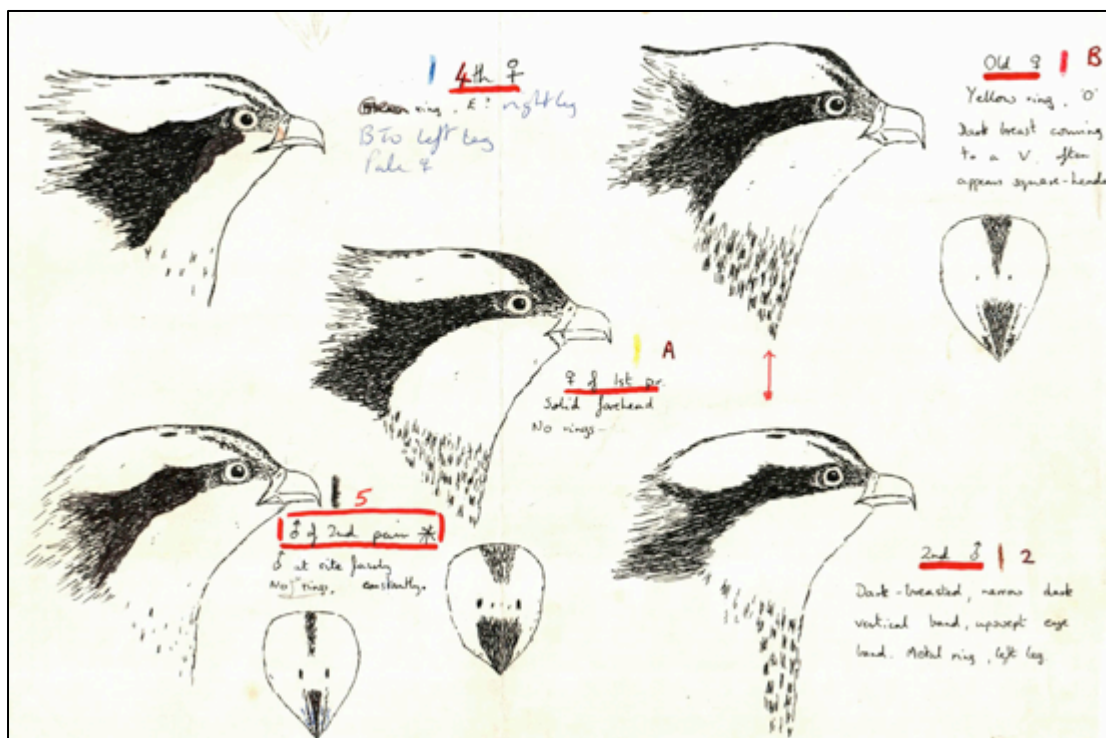


Figure 17: A supplementary sheet to identify ospreys contesting ownership of the Loch Garten nest site, included within the Loch Garten osprey log for the 1987 breeding season, 3 volumes – RSPB Sandy, uncatalogued. Reproduced with the kind permission of the RSPB.

<sup>759</sup> Bowker G and Star S (1999) *Sorting Things Out: Classification and its Consequences*: 39, 319

<sup>760</sup> Demerit D (1998) 'Science, Social Constructivism and Nature' in Braun B and Castree N (eds) *Remaking Reality: Nature at the Millennium* (Routledge; London & New York): 178

<sup>761</sup> Waterston G (1960) 'Notes on the Breeding Biology of the Speyside Ospreys – 1959 & 1960: Part 1' op cit.: 135.

The material fabric of the log performed and reflected this shift towards standardisation. By 1966, written notes were more succinct, supplemented by an array of coded marginalia. In 1969 and 1970, the Society's research biologists urged a change in format, both to improve ease of data extraction and with the desire to perfect a standardised model of hide-practice that could then be applied at other reserves in a similar fashion.<sup>762</sup> The senior wardens at Loch Garten devised and trialled new forms of column-based data entry. In the process, the recording process would be transformed from the anecdotal summary of bird activity to a tick-box form of behavioural accounting. Latour's description of the categorising of vegetation types by a field pedologist in the Amazon as 'the work of a meticulous bookkeeper' feels especially apt here as the change in logging format was facilitated by the decision to use accountancy ledgers to record observations (Figure 18; Figure 19).<sup>763</sup> Pre-ruled columns for tallying incomes and expenditures became a means to separate out units of bird behaviour. The new system was lauded by both the head warden at Loch Garten and senior research staff at RSPB headquarters for the ease with which information could be extracted. The log presented trends in the changing frequency of behaviour in a way that appeared almost 'self-evident' to the reader.<sup>764</sup> Some volunteers were less impressed at their technomorphising into standardised recording devices, as evidenced by the following limerick, scribbled on a scrap of paper in the hide and subsequently forwarded to the RSPB office in Edinburgh by the senior warden on Speyside:

'An ingenious warden called Green,  
Invented a watching machine,  
It would watch all the birds,  
Then translate into words,  
All the actions and things it had seen'<sup>765</sup>

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<sup>762</sup> Memo from Mike Everett to David Lea, RSPB reserves department (13 February 1969) 'Operation Osprey - Log Books' - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>763</sup> Latour B (1999) *Pandora's Hope: Essays of the Reality of Science Studies*: 31.

<sup>764</sup> Memo from James Cadbury, RSPB senior research biologist to Chris Evans, osprey warden 1973, cc. Frank Hamilton, Scottish officer; John Crudass, RSPB reserves manager (21 June 1973) 'Osprey log' Memo regarding the analysis of the log including a list of criteria under which analysis should be conducted. RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>765</sup> Letter from Harvey Burton to Mike Everett, cc. George Waterston (1 July 1970) 'Reserve Bulletin, June' Report on the previous month's activities on Speyside - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.



Figure 18: Photograph showing the transition from 'school jotter' to accountancy ledger. Top row: comparing the form of the log in 1957-1958 with 1970. Bottom row: the change in format between 1972 and 1991 (still in use today). Taken by the author.

Weather Fine. - Sunny - Broken Cloud - light wind. 22<sup>nd</sup> July.

TIME	WHEREABOUTS OF BOTH ADULTS	NEST MATERIAL	FISH	BIRD FEEDING YOUNG AND NO BEING FED	INTRUDER	BIRD(S) CALLING	WHEREABOUTS OF YOUNG E A OR M	WING EXERCISING BY YOUNG	BIRDS PREENING	OTHER COMMENTS
18:00	♂E ♀A						2E 1A			4 ospreys, circling
18:10	♂A ♀A			1 Juv			2E 1A			
18:15	♂A ♀A			1 Juv			3E			
18:22	♂A ♀X			2 Juv			3E			
18:25	♂A ♀A			2 Juv		3 Juvs	3E			Feeding
18:29	♂A ♀X			2 Juv			3E			
19:00	♂A ♀X			1 Juv		1 Juv	2E 1A			
19:20	♂A ♀X			1 Juv			1E 2A			1A circling
19:29	♂A ♀A			1 Juv		1 Juv	2E 1A			
19:30	♂A ♀A			1 Juv		1 Juvs	3E			
19:32	♂A ♀A					1 Juvs	2E 1A			
19:33	♂A ♀A					1 Juvs	3E 1A			
19:35	♂A ♀A						2E 1A			
19:41	♂A ♀X						1E 2A			
19:44	♂E ♀A		FISH?	1 Juv		♂	2E 1A			
19:45	♂E ♀B					♂	3E			
19:46	♂E ♀B			2 Juv			3E			

Figure 19: An example of a page showing the new columned logging format adopted in 1970. Entry from the Loch Garten osprey log for the 1970 breeding season, vol. 3 of 3 (22 July 1970) - RSPB Sandy, uncatalogued. Reproduced with the kind permission of the RSPB.

Thus, the array of material and textual devices that directed and disciplined perception, the coding of the osprey, and the columned log format together constituted the ‘micropractices of detachment’ that ‘disaggregated’ avian activity from its surroundings, organising observations under headings of attention.<sup>766</sup> Simultaneously, the human was subject to a double dis-involvement. Insertion in the hide detached the individual from co-constitutive involvements in osprey life, thereby allowing the proximity to observe a species’ behaviours without it being disrupted or distorted by the viewing subject. The coding and listing of observations without prosaic interpretation sought to detach any human authorial presence from the record of that behaviour being produced. In the starkest example under the new columned format, a column for ‘intruders’ – intended to record instances of harassment at the eyrie from other raptors or conspecifics – came to also record human indiscretion. Moments of ‘intrusion’ at the nest site included aircraft, helicopters, and the transgressions of individual or groups of humans (RSPB staff and not) into the space around the nest. This semantic tactic effectively concealed ‘the actual concrete ‘presence’ of the humans involved in the osprey’s world by blending it amongst a list of recorded environmental stimuli.<sup>767</sup>

In an objective relation of proximity the human subject appeared as a detached observer, mechanically recording osprey life in the hide. The osprey, in turn, became a series of behavioural signals that could be summarised by strings of numerical data (Figure 20).<sup>768</sup> Such abstractions would eventually form the basis in 1973 for a young zoologist, Rhys Green, to conduct a rigorous analysis of the logbooks from 1969 to 1973. His findings were later published and became the basis for further generalised summaries of osprey and raptor ecology.<sup>769</sup> The hide at Loch Garten was an ‘epistemological engine’ driving such understandings of avian existence with a burgeoning science of ecology.<sup>770</sup> However, as the following section will discuss, there remained room within this assembly for a different kind of logging involvement: one less certain of, and driven by curiosity for, the lively birds in view.

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<sup>766</sup> Candea M (2010) op cit.: 248; Despret V (2013a) op cit.

<sup>767</sup> Despret V (2013a) op cit.: 52.

<sup>768</sup> See Crist E (1999) *Images of Animals: Anthropomorphism and the Animal Mind*.

<sup>769</sup> See Cramp S *et al* (1980) op cit.; Dennis R (2008) op cit.; Newton I (1979) op cit.

<sup>770</sup> Ihde D (2002) op cit.: 69.



RESERVE BULLETIN CONTD (2)											
Date.	No. of Sticks.	Average length.	Heather.	Moss.	Grass.	Fish.			Mating		
						Pike.	Trout.	Others.	Suc.	Uns.	Doubt.
3 April.	-	-	-	-	-	-	1	-	-	-	-
4 "	14	17.43	-	-	-	(2)	-	-	-	-	-
5 "	22	13.20	-	-	-	12" 24" (1)	-	2	1	-	-
6 "	57	16.26	-	2	2	18"	-	8"	1	1	-
7 "	43	16.09	1	1	-	12" 24" 10"	-	-	6	-	-
8 "	33	21.06	2	2	-	12" (1)	-	-	3	3	1
9 "	44	17.97	1	5	(1 bark)	-	14"	-	2	5	-
10 "	35	18.45	-	2	1	9" 18" 14"	-	-	5	2	4
11 "	26	24.77	-	5	5	12" 20" 10" 14"	-	-	4	2	-
12 "	25	25.08	-	13	-	16" 14" 16"	-	-	3	4	1
13 "	23	20.04	-	9	-	14" 18" 12"	-	-	4	2	-
14 "	16	17.04	2	4	-	13" 12" 14"	-	-	2	3	-
15 "	7	18.57	-	-	-	15" 18" 9"	-	-	3	3	-

Figure 20: A tabulated summary of the first month of the 1970 season included in a letter from Harvey Burton, senior osprey warden to Mike Everett, cc. George Waterston (1 July 1970) 'Reserve Bulletin, June' Report on the previous month's activities on Speyside - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued. Reproduced with the kind permission of the RSPB.

#### 4. Curious proximity: logging politely

The shift to a columned approach did not necessarily produce a cleaner form of data entry and the format underwent several revisions between 1969 and 1974. It was soon evident that the utility of individual columns had to be adapted over the season to reflect the breeding cycle. Certain behaviours increased in frequency, like the delivery of fish, or ceased nearly altogether, like mating. The rhythms of osprey life were therefore reflected in a textual 'becoming-osprey' of the log. The birds were involved into production of the log as external co-authors: their actions could alter what was recorded and re-direct attention elsewhere. Some columns would also be dropped because they weren't felt to be of scientific use. As the senior warden during 1972 opined, there seemed little value to some of the observations. Personally, he could see little point in recording 'every time an osprey drops off the nest to circle round and crap.'<sup>771</sup>

<sup>771</sup> Memo from Russell Leavett, osprey warden 1972 to James Cadbury, cc. John Crudass, Frank Hamilton (23 January 1973) A short note suggesting revisions to the logging format - RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

By 1975, a fairly settled format had emerged: columns recorded each bird's position; the delivery of fish and nest material; intruding ospreys or other species; calls; and then, variously, mating, egg-turning and the position of young once they had hatched. The abstractions of osprey logging were still open to dissent, however, both by the human volunteers and the birds. The devices and practices of logging made wardens pay attention and many soon felt that additional elements of osprey life merited incorporation; such as when they called in a manner unheard before, utilised a different perch, or when reports filtered in of birds seen around the region. A continued and curious attention to bird life saw volunteers and wardens seek to hone the log's format in response.<sup>772</sup> I argue here that this 'rule bending and informed guesswork' of field science reflects an emerging ethic of 'politeness' in proximity: the desire to better account for ospreys as their lives unfolded in surprising ways or where activities exceeded the delineations of the log.<sup>773</sup>

Whilst the hide was an assembled device that produced proximity conducive to 'objective' knowledge production, it would also remain a space of embodied response, creativity and curiosity for more than human life. Here I focus on two examples of proximate curiosity as wardens sought to accommodate the liveliness of osprey geography both at and beyond the nest. Firstly, I describe how extending and improvising within the language of logging provided a means to account for a more active, unsettled and emergent osprey presence at the nest, with room for 'surprises' and contestations. Secondly, I use an example of observations incorporated from the wider area to demonstrate how the broader geographical lives of birds could be partly articulated through the knowledge-producing involvements of the hide simply by looking beyond it. Such an example emphasises the situatedness of hide work as the 'view from somewhere' rather than nowhere.<sup>774</sup> Additionally, the hide is rendered the setting for an on-going curiosity about ospreys by a human subject 'whose ambit is involvement and engagement, rather than a detached gaze in which materiality stiffens into objectivity.'<sup>775</sup> The logged records of osprey behaviour become less objective accounts than 'narratives of affiliation and mutuality' displaying a cultivated familiarity with particular ospreys

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<sup>772</sup> Haraway D (2008) op cit.: 93.

<sup>773</sup> Lorimer J (2008) op cit.: 391.

<sup>774</sup> Haraway D (1991) op cit.: 196.

<sup>775</sup> Anderson B and Wylie J (2009) op cit.: 324.

and the way they dwell in the environment.<sup>776</sup> This does not mean forgetting that such contact occurs asymmetrically, rather it is to emphasise that the production of situated understanding means ‘getting these asymmetric relations right’ and that through these relations humans actively generate and respond to the ‘epistemological-ethical obligations’ of their knowledge-producing involvements.<sup>777</sup>

### **Extending the language of the log**

Whilst the intention was that the space of the hide would orient the human volunteer as a scientific observer towards the birds on the nest, the strictures of logging could be ‘diluted by practice’.<sup>778</sup> Observations and figures were modified in the involved doing of sensuous and embodied work. In reading the logs of osprey behaviour it is apparent that the transcribing of osprey life on the nest was not always a neat process and could require negotiation, extension and incorporation. Those recording osprey behaviour were often confronted with sights, sounds, and activities that did not fit neatly into an ever-more scientific and standardised schema. Whilst different volunteers clearly did record with more deference than others to the instructions given for each log book, some responded to a more unruly nature by seeking to include such incidents in the log in ways that did not ‘silence, overlay or tidy’ them.<sup>779</sup> Such an attention might be understood within Vinciane Despret and Donna Haraway’s terminology of ‘politeness’: their sensibility towards the ways in which particular incidences of relating, and the devices or environments mediating those relations, might allow the animal to be more or less interesting. Even for such an attempt to construct knowledge ‘behind the subject’s back’ as hide work represents, there was a sense of wardens wanting to delve a little deeper and to make the ospreys in the record appear a little more capable and articulate of action.<sup>780</sup>

The tree codes used to locate and identify a bird by its position had to be expanded between (and sometimes during) seasons (Figure 21). In 1959 there were five trees

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<sup>776</sup> Lorimer H (2010) op cit.: 65.

<sup>777</sup> Haraway D (2008) op cit.: 42.

<sup>778</sup> Lorimer H and Lund K (2003) ‘Performing facts: finding a way over Scotland’s mountains’ in Szerzynski B, Heim W and Waterton C (eds) *Nature Performed: Environment, Culture and Performance* (Blackwell; Oxford): 137, 140.

<sup>779</sup> Johnston C (2008) op cit.: 639.

<sup>780</sup> Despret V (2005) op cit.: 360.

allocated codes and recognised as perches 'A' to 'E'. By the second volume of the 1961 log the tree code included 'X', 'Y', 'Z' and several other more specific mentions of perches at different heights *within* previously coded trees. As an example, Tree 'A' now included a 'Lower Perch A' (LPA), 'Middle Perch A' (MPA) and a 'Higher Perch A' (HPA). Although these would not appear in later years, the proliferation that they signal continued. The engines of this expansion were the ospreys themselves. With the arrival of a new individual or pair to breed at the nest site perch preferences could change.<sup>781</sup> Wardens, in an attempt to keep track of their whereabouts, had to remain attentive to what the birds were doing, extending their coded language in a manner that was 'polite' (in Despret's sense) in response and in an attempt to articulate osprey behaviour. At its basic level, this was a politeness towards the more-than-human that involved doing in the log what these birds suggested be done.<sup>782</sup> As such, observations from the hide could involve 'tinkering and adjustment' when observations jarred with 'the frame of classification'.<sup>783</sup>

By the 1970s, wardens found themselves straining at the limits of the alphabet to account for osprey geographical preferences. The expansion of tree coding continued in a more haphazard way. The graphical tree guides, either affixed to the walls of the hide or inserted within the opening pages of each log book, effectively mapped both the birds' own spatial preferences and the record's becoming-osprey as some wardens sought both forms of writing more aligned with osprey experience and to better learn to be affected by the territorial refrains of nest life. In this way, the ospreys injected their own agency into the logging practice of the hide, becoming enmeshed in the 'hermeneutic labour' of this kind of active response.<sup>784</sup>

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<sup>781</sup> The records collated by Roy Dennis (see Dennis R [2008] op cit.: 23) suggest that it is possible that the same pair occupied the site until 1965. He then suggests that whilst the same male returned until 1975, two different females may have mated and raised chicks at the site, one arriving in 1963 to be later replaced by a second in 1973. The observations of the male are uncertain prior to 1975 when a new male bird definitely colonised the site. Similarly, records for the female are equally uncertain until 1973.

<sup>782</sup> Latour B (1992) op cit.: 251-254.

<sup>783</sup> Waterton C (2002) 'From Field to Fantasy: Classifying Nature, Constructing Europe' *Social Studies of Science* 32(2): 188.

<sup>784</sup> Haraway D (2008) op cit.: 262-263; Philo C and Wilbert C (2000) op cit.: 14.



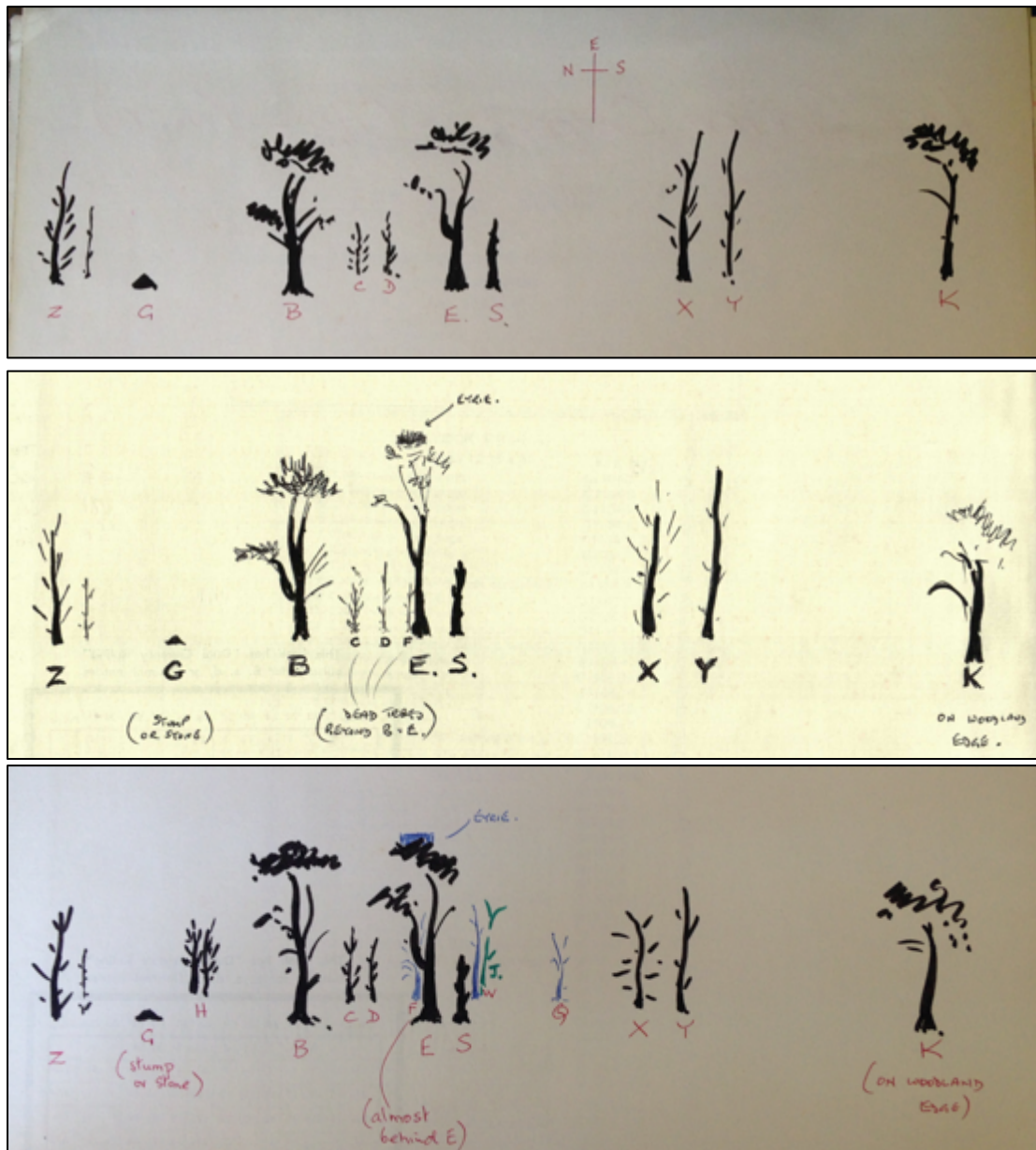


Figure 21: The tree guides used to assist wardens from each volume of the log record in 1970, taken from the Loch Garten osprey log for the 1970 breeding season, 3 volumes – RSPB Sandy, uncatalogued. Reproduced with the kind permission of the RSPB.

When the alphabet had run out, wardens found provisional means to include osprey behaviour that did not fit with the prescribed schema. A wider range of more obscure semiota differentiated between perches within particular events of activity. Once the chicks had fledged the nest by late July and early August, a trail of asterisks, arrows and other symbols traced their first forays and graspings into their local surroundings (see Table 1). As with other temporary codes – such as those proposed for semi-regular behaviours like circling flights around the nest or

proposed additions to the typology of osprey vocalisations – some existed only as long as a particular warden was volunteering on Speyside.<sup>785</sup> In this way, inexperience could reveal or lead to the recording of occurrences that seemed anomalous or uncharacteristic of the birds amidst an impromptu and situated re-working to adapt and extend the log to render osprey life.<sup>786</sup> By 1974, wardens had established a tactic of denoting previously unknown, or infrequently used perches with a dash ('-'), accompanied by a brief note or a small sketch in the margin as to where it was located. The entry 'T/-' therefore opened a space for uncertainty and emergence in the log in which the birds could be articulated in their preferences within the sedimented regime of data entry. Following Ingold, these moments of extension and improvisation in tree coding reflect an epistemological and ethical desire 'to follow the ways of the world' as they occurred, rather than to adhere stringently to a classification system imposed prior to a meeting with the birds in their specificity at the site.<sup>787</sup>

Proposals and discussions over the location of birds also prompted moments of contention and correction, revealing layers of human ornithological expertise and familiarity with the ospreys they were observing. A more experienced volunteer might 'correct' a previous entry if subsequent observations contradicted those that had come before, or they suspected that an error had been made based on an emergent incongruity in the record. Some of the logs – such as those for 1976 – bear the marks of the senior warden's end of season analysis. Entries could be amended, discarded or interrogated further by a more experienced eye. These moments of analysis reveal those humans who displayed more of an involved affiliation with the birds and their dwelling at the site. From longer associations, senior staff-members drew the authority to scribble out suspected erroneous entries with justificatory notes like '♀ rarely goes to Tree B'.<sup>788</sup>

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<sup>785</sup> See the instructions page for the Loch Garten osprey log for the 1973 breeding season, vol. 2 of 4 – RSPB Sandy, uncatalogued.

<sup>786</sup> Waterton C (2003) op cit.: 114, 124.

<sup>787</sup> Ingold T (2010) op cit.: 10.

<sup>788</sup> Entry from the Loch Garten osprey log for the 1976 breeding season, vol. 2 of 2 (5 June 1976) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 4; Matless D (2000a) op cit.: 121.

<i>Symbol:</i>	<i>Appearance:</i>	<i>Defined as:</i>
'T/◆'	10 <sup>th</sup> August 1974, 1514-1555	'Tree in the NE'
'T/*'	10 <sup>th</sup> August 1974, 1908-1921	'In tree to left of W'
	12 <sup>th</sup> August 1974, 1407	'Tree to right of W'
'T/†'	10 <sup>th</sup> August 1974, 1914-2030	'In tree right of W'
	12 <sup>th</sup> August, 1974, 1421	'perch on right side of large gap'
'T/T'	12 <sup>th</sup> August 1974, 1155	'Tree to NW of T/Z'
	12 <sup>th</sup> August 1974, 1918	'Tree between J and X'
'T/→'	12 <sup>th</sup> August, 1974, 1407-1422	'Perch on left side of gap between Q & W'
'T/°'	12 <sup>th</sup> August, 1974, 1755	'Tree to left of Z'
'T/Q*'	14 <sup>th</sup> August, 1974, 1310	'Perch near (to the right of Q) at right at gap'

**Table 1: Tree codes used by wardens between 10<sup>th</sup> and 14<sup>th</sup> August, 1974. Entries taken from the Loch Garten Osprey log for the 1974 breeding season, vol. 3 of 3 (10-14 August 1970) – RSPB Sandy, uncatalogued.**

## **Extending perspectives from the hide**

Many of the wardens in the hide displayed attention to unusual details of osprey life, even if or why such details were significant remained 'an open question.'<sup>789</sup> There appeared, in some cases, the desire to extend and involve the concerns of hide work *beyond* the corridor of perception offered by the walls and devices of the hide itself, pointed east at the eyrie. As a result of its orientation, those on watch were oblivious to osprey life as it happened away from the nest. I argue that when wardens did look towards other osprey places, it became possible for 'different worlds' to appear.<sup>790</sup>

<sup>789</sup> Hinchliffe S (2006) op cit.: 95

<sup>790</sup> Ahmed S (2006) op cit.: 16.

Immediate limitations to the hide's field of vision are clearly evident in some attempts to keep track of and codify local perch preferences. Despite attempts to remove intervening vegetation at the beginning of each season, the ospreys could settle outside the corridor of a warden's visual perception. If wardens wanted more information about where the birds went, or what they were doing beyond their hide-bound visual field, they had to either incorporate reports from – or physically go – somewhere else, an enduring reminder of both hide and record's situatedness.<sup>791</sup> The field of vision could also be widened with the 'addition of points of view'.<sup>792</sup> At times this was achieved by coordinating observations between the forward and public hides, which had slightly different perspectives on the nest. Reports were passed between wardens regarding the number of chicks seen, the use of different perches or the presence of high circling intruder birds.<sup>793</sup> Sometimes simply stepping outside and peering cautiously round the hide in a different direction proved enough.

Additionally, observations from the broader region could prove illuminating when added into the log. Wardens offered these as interpretations or explanations for certain periods of osprey absence or a recent return to the nest. This kind of commentary emphasises the active and involved interplay between 'observable realities' and 'imaginative engagements' in the production of the record within proximity of the birds.<sup>794</sup> Information of this sort – compiled from the sightings of off-duty wardens, visiting members of the public, and local RSPB contacts – might include reports of ospreys elsewhere in the region, such as at known fishing spots,

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<sup>791</sup> Haraway D (1991) op cit.: 196.

<sup>792</sup> Despret V (2008) 'The becomings of subjectivity in animal worlds' *Subjectivity* **28**(1): 134.

<sup>793</sup> Regarding numbers of chicks see the entry from the Loch Garten osprey log for the 1964 breeding season, vol. 2 of 3 (16 June 1964) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 6; entry from the Loch Garten osprey log for the 1966 breeding season, unknown volume number (2 May 1966) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 2; regarding use of perches see the entry from the Loch Garten osprey log for the 1969 season, unknown volume (20 June 1969) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 12; regarding intruding raptors see the entry from the Loch Garten osprey log for the 1966 breeding season, unknown volume number (29 May 1966) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 3; entry from the Loch Garten osprey log for the 1969 breeding season, unknown volume number (14 June 1969) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 10.

<sup>794</sup> Lorimer H (2010a) op cit.: 68

or even just flying with a fish in the local vicinity.<sup>795</sup> The enduring presence of such inclusions over the thirty years of logs examined suggests on-going communication between a variety of humans involved in co-authorship of the log from both within and outwith the hide.<sup>796</sup>

A realised 'politeness' towards the osprey meant accommodating these kinds of observations in the hide record, with the possibility of revealing a more interesting avian subject. Between 1977 and 1979, several observations compiled by wardens off-duty, or those who actively following birds as they left the nest area, were made from the shores of Loch Garten. These additions document what are described as 'practice dives' by younger ospreys: several stoops to the water, followed by the trailing of claws across the surface and a brief perch nearby. The birds would not fish these waters as the high peat content of the loch obscured their view of any fish below the surface.<sup>797</sup> Yet, here they were appearing to engage their environment in a manner not otherwise recorded in the log.<sup>798</sup> Such a record has minor precedence: an account from Sweden in 1954 describes adult ospreys engaging in what are described as didactic displays of fishing with their fledged offspring. In that example, the adult birds dropped an already caught fish from height and then swooped to retrieve it, the juveniles being induced to follow suit. After six days of 'education' the young were able to catch fish, albeit clumsily.<sup>799</sup> Instructive behaviour has also been observed amongst hunting golden eagles and peregrine

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<sup>795</sup> Notes regarding birds at known fishing spots such as Loch Pityoulish or Loch Mallachie, include entries from the Loch Garten osprey log for the 1969 breeding season, unknown volume number (29 May; 10 June 1969) – RSPB Forest Lodge, uncatalogued microfiche, Sheets 7, 9; regarding ospreys with fish see the entry from the Loch Garten osprey log for the 1969 breeding season, unknown volume number (18 April 1969) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 2.

<sup>796</sup> My own experience as a volunteer warden at Loch Garten demonstrated this to be very much the case today.

<sup>797</sup> Interview with Stuart Taylor, op cit.

<sup>798</sup> Entries from the Loch Garten osprey log for the 1977 breeding season, unknown volume (10, 12 August 1977) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 8; entry from the Loch Garten osprey log for the 1978 breeding season, unknown volume (13th August 1978) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 7; entry from the Loch Garten osprey log for the 1979 breeding season, unknown volume (5, 16 August 1979) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 8.

<sup>799</sup> Meinertzhagen R (1954) 'Short Communications: The Education of Young Ospreys' *Ibis* **96**: 153-155.

falcons.<sup>800</sup> Therefore, in stepping outside of the hide at Loch Garten, the wardens were able to create a space for the osprey to articulate its own learning behaviours in the log, suggestive of a more complex avian subject dwelling within the environment.

These observations appeared in the logs as footnotes, additional remarks or interruptions in the unfurling of life at the nest. They emphasise both that the log was an unfolding and partial record 'from somewhere'; and that a new perspective could be affected *ad hoc* to extend the account.<sup>801</sup> Whilst the description of 'practice dives' might be construed as anthropomorphic, such logging vernacular also suggests that different orientations towards the birds opened up an appreciation for the resonance between species and speculation on lesser-known expressions of osprey behaviour.<sup>802</sup> The inclusion of observations, albeit limited, made away from the hide gestures towards an animal life lived across a broader and more affective geography, as well as to the fact that 'what is "present" or near to us is not causal' but rather made near to us through contingency.<sup>803</sup> The osprey that was recorded at Loch Garten, and from which more generalised accounts would be extrapolated about the species' ecology, is therefore figured to include certain behaviours whilst excluding others due to the hide's location, facing and contents.

This section has demonstrated through two examples of expanded geographical attention how the relationship of hide-based proximity could take on a form of curiosity in the attempts of wardens to navigate 'the bumpiness of the field'.<sup>804</sup> Appreciating such curiosity emphasises both the active role of the human warden becoming both affected by and involved in the perception of the osprey's world, changing their appreciation of life at the osprey nest. I emphasise the agency of the birds themselves, involved as 'co-authors' of this historical record.<sup>805</sup> The result is a more attentive and questioning human subject affected by and enacting of a livelier version of osprey life (see also Chapter 6). The desire to extend or modify the

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<sup>800</sup> Cosgrove P (2016) 'Do adult Golden Eagles teach their offspring to hunt?' *Scottish Birds* 36(1): 10-11; Newton I (1979) op cit.: 162.

<sup>801</sup> Haraway D (1991) op cit.: 196.

<sup>802</sup> See Bennett J (2010) op cit.: 98.

<sup>803</sup> Ahmed S (2006) op cit.: 21

<sup>804</sup> Waterton C (2003) op cit.: 117

<sup>805</sup> Benson E (2011b) op cit.

language of the log reflects ethical curiosity for ospreys and a desire to better capture or articulate them, not outwith the practical concerns of producing a coherent and honest account of nest behaviour. This also meant, at times, ignoring more 'scientific' language or ways of recording to involve oneself imaginatively and creatively in perceiving the osprey. A becoming-responsive with the osprey is made possible within the mundane practice of logging, and at times proves able to 'hail us into curiosity' for the other.<sup>806</sup>

## **5. Disorientated proximity: the night watch**

Whilst the previous sections have emphasised observing ospreys in order to record their lives, within the enduring dual function of the hide I identify a further ontology of human-osprey proximity. Considering the hide assemblage as a device that enabled a close human presence for guarding the birds at night – particularly during the incubation period when egg-theft was a possibility – I characterise proximity in darkness as one expressed through disorientation. At night, the hide assemblage affected moments of sensory failure in which the birds themselves became the most reliably sensing agents in the vicinity. Such a focus on a night-time encounter follows Julian Baker's call for historical and archival attention to 'the darker sides of past landscapes' and their experience and interpretation.<sup>807</sup> Darkness 'hid' the birds, nest, wardens and any potential assailant without discrimination. Here I want to briefly discuss night watch as a sensory engagement with the birds that relied on devices and perceptive modes other than the visual. In the dark, the osprey was not the object of scientific inquiry but a potential target for wrongdoing. Indeed, not until the advent of CCTV and infrared at Garten were wardens privy to the birds' night-time activities. Rather, this was a paranoid perceptual involvement with the osprey that was predicated upon 'looking *with* it rather than looking at it, and knowing its intentions.'<sup>808</sup>

### **Embodied perception and disorientation in the hide**

Night watch demanded a certain level of bodily and mental endurance. The old sackcloth shelter had been bitterly cold and the wooden hide only a small

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<sup>806</sup> Haraway D (2008) op cit.: 39

<sup>807</sup> Baker J (2015) 'Darkness, travel and landscape: India by fire- and starlight, c1820–c1860' *Environment and Planning D: Society & Space* 33(4): 762.

<sup>808</sup> Despret V (2014) op cit.: 31.

improvement.<sup>809</sup> Wardens relied upon small oil stoves and a Calor gas cooker for both heat and caffeine to stay awake and alert.<sup>810</sup> Visitors to the OP donated blankets and even a large bearskin coat to help keep the biting spring temperatures at bay.<sup>811</sup> From 1960 onwards, wardens were permitted to take turns sleeping in the hide at night. The provision of an airbed – a note in the back of the 1961 log reminded wardens to keep it inflated – allowed some recovery between turns on lookout. The amount of air in a mattress could conceivably affect the attention a warden was capable of devoting to their surroundings when it came to their shift. Likewise, the stains from candles and coffee across the pages of the logbook emphasise the mundane materiality keeping tiredness at bay.<sup>812</sup>

More crucially, however, the instructions for the night watch provided for volunteers through the 1960s served to direct the body and senses in a rather different manner to the day. The shutters on the hide were set down, both to combat the cold and prevent lantern light bleeding out onto the marsh. The alarm circuits were activated.<sup>813</sup> Simultaneously, the observer switched their mode of perception from ornithologist to security guard. The bird was enacted less as a scientific object than a co-dweller of the nocturnal landscape in which its senses were as likely and useful, if not more so, to detect an intruder's approach. Wardens were less interested in what the bird was doing as to study its behaviour than they were in terms of its role as an additional security device. An osprey cry of alarm had the same impact on the wardens as the sounding of one of their own electronic warning systems.

The sensual experience of the landscape around the nest was profoundly different in darkness. The visually dominant engagement practiced in daylight was redundant at night. Wardens had to engage with the birds via different bodily

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<sup>809</sup> Brown P (1962) op cit.: 40.

<sup>810</sup> 'Operation Osprey: Roy Richards at Loch Garten' (1960) Audio tape, op cit.

<sup>811</sup> Interview with Roy Dennis, op cit.

<sup>812</sup> Entry from the Loch Garten osprey log for the 1976 breeding season, unknown volume (3 June 1976) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 3; entry from the Loch Garten osprey log for the 1983 season, vol. 3 of 3 (14 July 1983) – RSPB Sandy, uncatalogued.

<sup>813</sup> Instructions page in the Loch Garten osprey log for the 1964 breeding season, vol. 1 of 3 – RSPB Forest Lodge, uncatalogued microfiche, Sheet 1.



capacities.<sup>814</sup> If the birds could be seen at all they appeared as mere silhouettes; motionless save for a brief stretch or comfort flight. Waterston urged his volunteers to use their binoculars ‘with the greatest vigilance’, doing not more than an hour’s watching in the gloom at a time to prevent eyestrain.<sup>815</sup> The darkness was an ‘augmenting medium’ of perception in a wholly negative and dampening sense.<sup>816</sup> Similarly, the thick mists liable to roll in over the marshland between the nest and hide were a further factor that diminished the effectiveness of visual monitoring. At night, the surfaces of forest, heather, and nest appeared differently: colours were indiscernible and the visual cues – perches or notable trees – that one relied upon to orient vision and place the birds merged into one another.<sup>817</sup> The nest tree itself, with its double-trunk, was ‘rather confusing’ to the eye ‘trying to detect anyone attempting to climb’.<sup>818</sup> Another aspect of this particular nocturnal landscape that emerged was that a watcher was gazing out at the nest could often see distant headlights on the road between Nethy Bridge and Tomintoul. These could sometimes appear as torches moving between the trees, something that Philip Brown describes during his first watch in the hide in 1959.<sup>819</sup> Those in charge of the Operation, even in more recent decades, will attest to being called to the hide following the sighting of these lights by those on watch.<sup>820</sup> In darkness the visual means of honing the senses towards the tree proved disorientating, failing to extend the reach of the body in the way that was possible in the light.<sup>821</sup>

With vision impaired, the primary means to detect the bird was via the sensitive microphone apparatus. Those on night watch listened for sounds of distress from incubating birds as well as to determine their presence on the nest. In the case of both the egg robberies, having occurred in June 1958 and May 1971 respectively, the

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<sup>814</sup> Morris N (2011) ‘Night walking: darkness and sensory perception in a night- time landscape installation’ *Cultural Geographies* **18**(3): 316.

<sup>815</sup> ‘Operation Osprey, 1959: Standing Orders’ (undated – presumed 1959) Instructions for wardens including the headings ‘Objective’, ‘Method’, ‘Watchers’ and ‘Action on Warnings’ – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 1.

<sup>816</sup> Baker J (2015) op cit.: 761.

<sup>817</sup> See the discussion of Robinson J (2013) ‘“Darkened surfaces’: camouflage and the nocturnal observation of Britain, 1941–45’ *Environment and Planning A* **45**(5): 1053-1069.

<sup>818</sup> Entry from the Loch Garten osprey log for the 1959 season, vol. 1 of 8 (2 May 1959) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 3.

<sup>819</sup> Brown P (1962) op cit.: 56.

<sup>820</sup> Interview with Mike Everett, op cit.; Interview with Richard Thaxton, op cit.

<sup>821</sup> Ahmed S (2006) op cit.: 162.

first indication to those on guard that something was wrong had been the female calling in alarm. Therefore, the birds alighting in panic after dark was taken as an almost universal indicator of intrusion since it was understood they would not 'behave in this way normally'.<sup>822</sup> From 1960 onwards the forward hide was also equipped with a series of electronic alarm systems. The initial arrangement saw a series of wires draped around the nest tree that, if broken in the act of someone climbing, set off an alarm to alert nearby volunteers.<sup>823</sup> With the improvements to the defences following the 1971 robbery, new systems were installed to replace the previously temperamental set up. These included a trembler wire that encircled the tree and a series of buried seismic geophones that aimed to detect over ground movement in the immediate vicinity (see Chapter 3). The latter had a traffic-light warning system on the hide console that visually displayed varying degrees of danger or calm to the wardens on duty.

Unfortunately, these alarms and devices were often less reliable than the birds themselves, acting in ways that disorientated rather than directed perception.<sup>824</sup> The microphone amplifier system, in a bizarre injection of material agency beyond any warden's comprehension, occasionally picked up Russian broadcast radio chatter. The often barely audible whispering could be rather off-putting. On occasion, the sound of soft Russian voices – the intersection of two disparate atmospheres of paranoia regarding the possibility of egg theft and a more general Cold War anxiety – made it difficult to concentrate and listen for the sounds of the birds.<sup>825</sup> The alarm systems proved notoriously temperamental. The more sophisticated devices installed after 1971's robbery were prone to false alarm or over-sensitivity to other sources of movement, such as passing wildlife or bouts of weather. The alarm might suddenly indicate an intruder when no apparent reason could be discerned,

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<sup>822</sup> 'Operation Osprey, Phase 2: Standing Orders' (undated – presumed 1959) General instructions for guarding the new nest site northeast of Loch Garten with specific actions to be taken during the day and at night – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 2.

<sup>823</sup> Interview with Frank Hamilton, op cit.

<sup>824</sup> Ahmed S (2006) op cit.: 47.

<sup>825</sup> Entry from the Loch Garten osprey log for the 1966 breeding season, unknown volume (26 April 1966) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 2; entry from the Loch Garten osprey log for the 1969 breeding season, unknown volume (20 May 1969) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 6.

possibly triggered by rain, wind, or a passing deer.<sup>826</sup> The hope would be that the weather would subside and allow the systems to be reset.

Therefore, to be in the hide at night was to experience a proximity to the birds that was disorientating, anxious and reliant upon the ospreys – with their keener eyes – for their ability to respond to danger and hail wardens into action. In the event of what looked like an intrusion, those in the hide pulled on boots and coverings. Through their audio equipment they would attempt to determine if the female had settled back down, suggesting the cause was a deer or other animal. A sense of anticipation followed any vocalisation or alarm lest it transpire to be an assault on the nest. If an unauthorised individual was identified near the tree, one warden was to creep out and apprehend them, turning their day-time scientific gaze upon the culprit to record their ‘field characteristics’ such that the Society could prosecute later.<sup>827</sup> Their partner would phone the camp at Inchdryne, alerting additional wardens and the police, before proceeding forward to the affray upon hearing ‘combat noises’.<sup>828</sup>

## **FALSE ALARM**

To be on watch in the hide at night was to perceive a particular and situated experience of relational darkness.<sup>829</sup> The night, the material situation of the nest and distant road confounded the visual sense. The ears could prove a means to detect disturbance, but the devices designed to enhance them often seemed to undermine or confound. The dark allowed a warden’s imagination to roam, energised by the stories of past raids and populating the unknown with shifting, malevolent figures.<sup>830</sup> As one former volunteer described of watching in 1958 and 1959, looking

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<sup>826</sup> An example of the alarm going off for no reason is seen in the entry from the Loch Garten osprey log for the 1972 breeding season, unknown volume (21 June 1972) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 4; entry from the Loch Garten osprey log for the 1974 breeding season, vol. 3 of 3 (28 July 1974) – RSPB Sandy, uncatalogued; examples of the alarm going off in poor weather are seen in the entry from the Loch Garten osprey log for the 1973 breeding season, vol. 3 of 4 (13 July 1973) – RSPB Sandy, uncatalogued; entry from the Loch Garten osprey log for the 1977 breeding season, unknown volume (11 May 1976) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 2; entry from the Loch Garten osprey log for the 1986 breeding season, vol. 1 of 2 (1 May 1986) – RSPB Sandy, uncatalogued.

<sup>827</sup> ‘Operation Osprey, 1959: Standing Orders’ (undated – presumed 1959) op cit.: 3.

<sup>828</sup> ‘Operation Osprey, Phase 2: Standing Orders’ (undated – presumed 1959) op cit.: 2.

<sup>829</sup> Morris N (2011) op cit.: 316.

<sup>830</sup> Baker J (2015) op cit.: 758.

at the tree set against the skyline one would begin to 'see people crawling up and going up and down [...] your mind fills in and you're convinced that there's people out there'.<sup>831</sup> The publicity of the previous attempts added pressure – particularly given the robbery in 1971 had occurred on the watch of two novice volunteers – and those arriving on Speyside dreaded that their first night shift might coincide with an attempt to take the eggs.<sup>832</sup> For those on watch then, night carried a familiar affective atmosphere of immorality, insecurity and unseen forces at work.<sup>833</sup>

It is hardly surprising that in such conditions, events could align to produce instances of perceived assault where there was none. There were numerous things in the surroundings that could put the bird off the nest, and the warden's imagination could prove to be a powerful force. Late in the night of 29<sup>th</sup> April 1965, two watchers on duty – D. Bates and A. Chapman – were convinced an attempt upon the eyrie was taking place. Bates describes how at 2240, believing that he had heard the bird call out in alarm and upon seeing lights in the distance, he left the hide to approach the tree, armed with whistle and truncheon. Finding nothing and with the bird now having alighted from the nest – though he remained unsure if his intrusion onto the marsh had caused this – Bates returned to the hide. The watchers witnessed further lights moving erratically to the south and decided to call base camp. One of the permanent wardens arrived on the scene shortly after, reporting nothing on the roads between the camp at Inchdryne and the OP. After a second inspection around the tree, the wardens could find no sign of an intruder. Chapman reflected in the log afterwards:

'Possibly the birds have been acting a little strange recently (e.g. frequency of changeover) and the ♀ is known to 'cheep' incessantly for no apparent reason whilst ♂ is nearby. But this was no "conversational" call but agitated alarm.'<sup>834</sup>

Because their incursion onto the marsh had certainly driven the bird from the nest it would be 'difficult to judge' for the remainder of the watch if there was indeed

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<sup>831</sup> Interview with Frank Hamilton, op cit.

<sup>832</sup> Interview with Stuart Taylor, op cit.

<sup>833</sup> For a summary of this sentiment in relation to the illumination of public space see Schivelbusch W (1995) *Disenchanted Night: The Industrialization of Light in the Nineteenth Century*.

<sup>834</sup> Entry from the Loch Garten osprey log for the 1965 breeding season, vol. 1 of 3 (29 April 1965) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 3.

anyone out there, until such time as she returned. Amidst the affects of their disorientation, the wardens were left without the most reliable of their alarm devices – the osprey itself. The incident as a whole led Chapman to dwell further on the weaknesses of their security set-up, convincing himself that he could not ‘rule out the possibility of some raider hoisting a ladder and scaling the tree without being heard’ given ‘the impotence of the alarm system’. For the rest of the watch, he could ‘only yearn for dawn to come so that we may see whether the bird has returned!’ The rest of the night passing without incident and the sunrise revealing the hen safely back on the nest, another warden – reviewing the events a few days later – would suggest the culprit might have been an owl.

The night watch, and its attention to the birds, was characterised by a particular nocturnal atmosphere of nervous paranoia as wardens at time grasped in the dark towards the birds with blunted senses.<sup>835</sup> An adrenaline-wired alertness, coupled with cold, exhaustion or caffeine, affected a particular experience of anxious proximity to the birds. From my own experience of watching at night, there is certainly a palpable atmosphere, the illuminated interior of the hide affecting a place of safety, but also isolation, within the moorland. One feels particularly vulnerable to any encroachment, and there is an uncertainty as to how exactly it would be dealt with.<sup>836</sup>

Once night was over – and dawn rose – the danger for the wardens had passed. The alarm circuits were deactivated, and the microphone turned off. Attention once again turned to recording life at the nest in forensic detail. The false alarm demonstrates that hide work enacted different subjects in assembled moments constituted by ‘mishaps, near misses, breakdowns, accidents’, as much as by the clear alignment between scientific codes, sensing devices and the nest.<sup>837</sup> The relationship of proximity at work during the night watch demonstrates particularly starkly how many of the same perceptual aids could produce different, disorientating involvements with the surroundings. The wardens heeded, and

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<sup>835</sup> Morris N (2011) op cit.: 316.

<sup>836</sup> Field notes from volunteering in the osprey hide, 14-21 May 2016.

<sup>837</sup> Swanton D (2013) op cit.: 283.

vested authority in, the call of the birds as the signal to leave the hide – something I now turn to consider in the final section.

## **6. Negotiated proximity: indifferent ospreys**

Before concluding I want to examine the involved relationship of human-osprey proximity in more avi-centric terms. To follow Despret's call for a speculative historical animal studies, I want to question how the birds understood, or were affected by, 'what humans offered them or forced on them' by way of a hide.<sup>838</sup> In doing so, I situate osprey dwelling within an active landscape of human activity. Given the variety of sources of disturbance within the surrounding environment, as well as from the hide itself, I argue that the maintenance of human-osprey proximity at Loch Garten constitutes an involvement that expresses contingent avian tolerance for – or indifference to – the impositions and presences of humans around their nest. Countering the ontology of hide work as performative of invisibility, I recognise that the practices of the RSPB at the site caused a certain amount of disturbance to the ospreys bound up with practices of monitoring and protection. The ospreys, displaying a tolerance of certain forms of disturbance, exist here as a historically specific and situated form of 'wild life', involved with humans in a broader regional landscape.<sup>839</sup>

### **An active landscape**

As described in the opening section, the use of a hide was in part performed the assumption that the optimal conditions for osprey flourishing on Speyside were those of quiet, solitude and human absence. Therefore, hide use also enacted particular moral geographies – akin to those of secrecy discussed in Chapter 3 – delimiting space around the nest and construing certain activities or modes of bodily comportment as good (in the sense that they did not disturb the birds) whilst discouraging or vilifying others.<sup>840</sup> In this spirit, early accounts of disturbance in the log characterise unconcealed or boisterous human presence as negative, even if there was no immediate effect upon the ospreys. For example, on the evening of the 1<sup>st</sup> June 1958 a warden writes:

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<sup>838</sup> Despret V (2013b) op cit.: 32.

<sup>839</sup> Matless D *et al* (2005) op cit.: 192.

<sup>840</sup> Matless D (2000b) 'Action and Noise Over a Hundred Years: The Making of a Nature Region' *Body & Society* 6(3-4): 141-165.

‘There has been quite a bit of noise from the farm situated well away to the rear of the hide. Hen did not take any undue heed of this, also a stray collie dog made rather a noisy visit to the hide and barked quite a bit. Again the hen took very little notice.’<sup>841</sup>

Five minutes later, the noise had ceased. The log reads: ‘the young people responsible [...] have quietened down & conditions have returned to normal again’. These ‘normal conditions’ constituted a lack of visible or noticeable human presence near to the ospreys. Indeed, hide work involved keeping quiet and still even when within the hide. Wardens found that during the first season of watching the birds in the wooden hide that if they talked or banged on the side of the structure the birds on the nest ‘jerked up and stared’ for a moment before settling back to preening.<sup>842</sup> Whilst in proximity to the birds, then, the warden had to demonstrate a ‘reserved mode of watching and listening’.<sup>843</sup> Slamming the hide door, or even the loud sizzle of a breakfast sausage, were activities that in proximity to a shy pair of ospreys, unused to a proximate human presence could prove disastrous.<sup>844</sup> However, such examples also demonstrate that the hide was *not* an invisible structure as such. Attention could be drawn to it and its presence could generate alarm if it was inhabited in a boisterous way. The birds appear in such accounts of bodily comportment as sensing and wary, unhabituated to the signatory sounds of human breakfasting. To be hidden was still to involve oneself with the bird.

Neither do logged records, abounding with near-constant traces human activity in the surrounding environment (as opposed to a direct assault on the tree), give credence to the skittish or fickle figure of the osprey that justified the exclusion of humans from its nesting area. The bird that emerges, and its relationship of proximity with humans, is more complex. Ospreys nesting in the forests of Rothiemurchus and Abernethy, both prior to their extinction and following their re-colonisation, dwelt in a landscape shared with loud tourists, forestry activities, and regional infrastructure development.<sup>845</sup> Examples show that such activity and noise

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<sup>841</sup> Entry from the Loch Garten osprey log for the 1958 breeding season, vol. 2 of 2 (1 June 1958) – RSPB SHQ, uncatalogued microfiche, Sheet 1.

<sup>842</sup> Frank Hamilton’s Bird Diary 1949-1959, op cit.: 519.

<sup>843</sup> Matless D (2000a) op cit.: 122.

<sup>844</sup> Entry from the Inshriarch osprey log for the 1963 season, vol.1 of 1 (19 May 1963) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 1.

<sup>845</sup> See Lambert R (1999) op cit.; (2001) op cit.

could indeed disturb the birds away from their nest sites if it exceeded certain levels.<sup>846</sup> Yet, the log also narrates how those ospreys re-colonising Speyside did so within a geography ‘animated’ by a variety of human practices, presences and sounds.<sup>847</sup> Gunshots (or backfiring agricultural vehicles) were heard from neighbouring estates, particularly it seems during the early decades of the project.<sup>848</sup> The occasional quarrying explosion, recorded during the 1960s and 1970s, accompanied infrastructure developments.<sup>849</sup> Most notably of all, the nest sat within a designated low-fly zone, with pilots from the airbase at Lossiemouth (operational from 1939) conducting occasional training flights overhead. Whether at the RSPB’s behest or not is unclear, but by 1973 a low flying restriction had been implemented over the ospreys’ nesting site at Loch Garten, extending the moral geographies of reserved watching skywards and preventing the passage of aircraft below 2000 feet.<sup>850</sup> In the first successful season alone the log features helicopters, jet planes and gunshots. The response of the birds to many of these incidents, however, in both that season and later years, was at best, an expression of mild alertness.<sup>851</sup> As seasons passed, the more common response seems to have been ‘no reaction from either bird’.<sup>852</sup>

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<sup>846</sup> Memo from Harvey Burton to Julian Knowles, assistant in the RSPB Scottish office (4 September 1970) Discussing a letter from a C.W. Fletcher, London to Waterston reporting discovery of a frustration eyrie near Carrbridge known to the RSPB as one built by birds disturbed by tree planting on Seafeld estate – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued; see the discussion in Chapter 7.

<sup>847</sup> See Whitehouse A (2015) op cit.; Rose M and Wylie J (2006) ‘Animating landscape’ *Environment and Planning D: Society & Space* 24(4): 475-479.

<sup>848</sup> Entries from the Loch Garten osprey log for the 1958 breeding season, vol. 2 of 2 (3 June 1958) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 1; entries from the Loch Garten osprey log for the 1969 breeding season, unknown volumes (11 May; 17 June 1969) – RSPB Forest Lodge, uncatalogued microfiche, Sheets 5, 11; entry from the Loch Garten osprey log for the 1979 breeding season, unknown volume (6 August 1979) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 8.

<sup>849</sup> Entries from the Moormore osprey log for the 1967 breeding season, vol. 1 of 1 (15 May 1967) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 1; entries from the Loch Garten osprey log for the 1969 breeding season, unknown volume (25, 26 June 1969) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 12.

<sup>850</sup> Letter from Lee Loftas, Air Command Secretariat, Spitfire Block, Royal Air Force High Wycombe to Ben Garlick, University of Edinburgh (11 September 2015) ‘Response to FOI Request (2014/07831) and further enquiry regarding Low Flying over Loch Garten from RAF Lossiemouth’ Personal communication – Ref: Air/CmdSec/Parl/RB/2015/254.

<sup>851</sup> Entry from the Loch Garten osprey log for the 1959 breeding season, vol. 3 of 8 (15 June 1959) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 12.

<sup>852</sup> Entry from the Loch Garten osprey log for the 1978 season, unknown volume (16 May 1978) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 2.



One can trace a clear historicity to the birds' acceptance. In the early part of the 1959 season simply approaching the hide appeared, at first, to disturb the birds. On the peat track between the loch and the trees screening the shelter there was a 'very short stretch' where even 'bent double' and moving 'with extreme slowness' would give an osprey on the eyrie cause to 'flap off and fly round for a few seconds until the person had again disappeared from view'. However, in little over a week the birds appeared to tolerate human comings and goings on the track. Soon, 'neither the cock nor hen displayed the slightest interest in activities on the peat road', even when a car was driven along it.<sup>853</sup> Unsurprisingly, the decision to open the site generated a fair amount of disturbance. The RSPB would, in later years, attempt to insulate the hide better against the sounds within, and instil amongst visitors the same bodily composure and atmosphere of reverential quiet that was encouraged in the hide.<sup>854</sup> Even with a more specialised and covered structure, noise inevitably leaked. Those in the forward hide – and therefore likely the birds too – could at times hear 'children's voices' and even 'transistor radios' when on watch. In extreme cases a warden would be dispatched to instruct offending guests to be quiet, yet the birds generally appeared unconcerned.<sup>855</sup> Thus, by the end of the first successful season, then, the birds had developed a demonstrable acceptance for the presence of a hide, the approach or conversation of wardens, and the visitors peering out at them from the makeshift OP.<sup>856</sup>

### **An avian indifference**

Following the work of Mattei Candea, I argue that such apparent osprey indifference for nearby human presence should not be construed as passivity or a lack of agency on their part. Rather, amidst an environment of potential threats and dangers, 'ignoring another living being is a contingent and revocable achievement, one in which engagement and detachment, action and inaction, are inextricably entwined.'<sup>857</sup> As Despret and others have argued, the apparent appearance of

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<sup>853</sup> Brown P (1962) op cit.: 55.

<sup>854</sup> Leavett R (undated – presumed autumn 1972) 'Wardens Report, Loch Garten 1972', op cit.: 2; see also Hamilton F (28 August 1973) 'Operation Osprey: Suggestions for Future Operations', op cit.

<sup>855</sup> Entry from the Loch Garten osprey log for the 1975 breeding season, unknown volume (20 May 1975) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 2.

<sup>856</sup> Entry from the Loch Garten osprey log for the 1959 breeding season, vol. 8 of 8 (17 August 1959) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 32.

<sup>857</sup> Candea M (2010) op cit.: 249.

animals to 'do nothing' or to cooperate with the apparatuses that have been imposed onto them throughout history does not equate to an absence of animal subjectivity or legitimation for notions of mechanistic thought.<sup>858</sup> The active nature of osprey indifference, or tolerance, to the presence of the hide is evident in its *geography*. Those occasions when humans ventured *beyond* the hide would see the birds vocal in their displeasure.

Humans would, on occasion, transgress the limits of the hide and wander onto the moorland. In 1959, there were several instances where the birds, having opted to nest at a different site, were disturbed in the hasty re-laying of defences around their nest.<sup>859</sup> On misty nights in early 1959, before the BBC had furnished access to sensitive microphone equipment, wardens had to creep out onto the marsh to listen for danger, risking sudden exposure to the birds when the air suddenly cleared.<sup>860</sup> Opening the site to the public had also brought moments of transgression. A few weeks after the site had been opened to the public in 1959, a watcher wrote of a visitor who had walked onto the marsh to try and get a better look at the nest, causing the female to alight in alarm.<sup>861</sup> On occasion, large groups (examples include '30 people from Abernethy outdoor centre' in 1978, or '12 Germans' in 1983) were called back and rebuked when they wandered, either oblivious or over eager, onto the marsh.<sup>862</sup> As soon as the offending intruders were shown back behind the hide the birds would return to the nest, often within fifteen or twenty minutes.

It was also the case that the RSPB soon came to authorise a number of excursions beyond the hide in line with the on-going involvements of protection, monitoring and display. By the end of the 1970s visits to the tree included egg checks; sorties to fix the temperamental alarm systems; the erection and use of photographic hides to

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<sup>858</sup> Despret V (2013b) op cit.: 42; see also Martin J (2011) 'Forum: When sharks (don't) attack: wild animal agency in historical narratives' *Environmental History* **16**(3): 451-455.

<sup>859</sup> See the entry from the Loch Garten osprey log for the 1959 breeding season, vol. 2 of 8 (10 May 1959) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 5.

<sup>860</sup> Frank Hamilton's Bird Diary 1949-1959, op cit.: 520.

<sup>861</sup> Entry from the Loch Garten osprey log for the 1959 breeding season, vol. 4 of 8 (2 July 1959) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 17.

<sup>862</sup> See entry from the Loch Garten osprey log for the 1969 breeding season, unknown volume (30 May 1969) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 7; entry from the Loch Garten osprey log for the 1978 breeding season, unknown volume (13 August 1978) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 7; entry from the Loch Garten osprey log for the 1983 breeding season, vol. 3 of 3 (17 July 1983) – RSPB Sandy, uncatalogued.

record footage for an RSPB film production (*The Osprey*, 1980); and – in a significant development regarding the narrative of the ‘timid’ osprey – ascents to the eyrie to ring chicks.<sup>863</sup>

The grandees of the Society had been wary of permitting ringing at Loch Garten for fear the disturbance would prove too great.<sup>864</sup> Instead, a trial run of the practice was approved in 1967 at a second successful nest in Morayshire, to avoid jeopardising their flagship site.<sup>865</sup> The Society faced arguments from their own field ecologists, particularly Speyside-based raptor surveyor Doug Weir, over the importance of ringing for understanding the longer-term dynamics of the re-colonisation.<sup>866</sup> There were also immediate results from the venture in 1967: one of the young ringed in Moray was recovered in southern Spain. Faced with the possible contributions to osprey knowledge, the RSPB granted permission to ring the birds at all osprey nest sites, including Garten, from 1968. Unlike some other raptors, ospreys were particularly easy to ring. The defence mechanism of the young was to lie flat and motionless in the nest, playing dead and unresisting to the hands of ringers. Meanwhile the female and male would circle high above, calling but generally keeping their distance.<sup>867</sup> The young were initially marked with metal rings, and later colour bands with larger letters that could be better seen from a distance were favoured.<sup>868</sup> The rings added a means in the log for distinguishing between the

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<sup>863</sup> An example of an egg-check is seen in an entry from the Loch Garten osprey log for the 1983 breeding season, vol. 1 of 3 (30 April 1983) – RSPB Sandy, uncatalogued; fixing alarm systems in an entry from the Loch Garten osprey log for the 1969 breeding season, unknown volume (2 June 1969) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 8; and an entry from the Loch Garten osprey log for the 1973 breeding season, vol. 2 of 4 (29 May 1973) – RSPB Sandy, uncatalogued; erection and use of hides for filming shown in entries from the Loch Garten osprey log for the 1977 breeding season, unknown volumes (18, 24 June; 4 July 1977) – RSPB Forest Lodge, uncatalogued microfiche, Sheet 4, 5.

<sup>864</sup> Minutes from a meeting of the RSPB Council (8 June 1967) RSPB Council Minutes, April 1949-February 1960 – RSPB Sandy, Classmark 01.01.11.

<sup>865</sup> See Chapter 3 for a discussion of this kind of logic in terms of an emergent osprey biopolitics.

<sup>866</sup> Weir D (12 July 1967) ‘Ringing of Scottish Ospreys’ A report on the recent operation to ring young ospreys on a Morayshire estate prepared for the RSPB staff biologist, Scottish office and the British Trust of Ornithology ringing office – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued: 2.

<sup>867</sup> Dennis R (2008) op cit.: 84.

<sup>868</sup> Minutes of a meeting of the Conservation Committee (16 May 1968) RSPB Watchers Committee/Conservation Committee Minutes (Renamed Conservation Committee in October, 1966), July 1954-November 1970 – RSPB Sandy, Classmark 01.01.11; Minutes of a

fledged young, and since 1968 the birds at Loch Garten were subject yearly to a routine of disturbance.<sup>869</sup>

By the 1970 season, after just 3 years of ringing at Garten and other known sites, 16 young birds had been ringed.<sup>870</sup> In June 1969, the second year in which the RSPB Council had permitted the practice at Loch Garten, the ospreys alighted from the hide and called loudly in alarm when a ringer walked in front of the hide.<sup>871</sup> Yet the birds would return to the nest almost immediately as the ringer retreated. As Roy Dennis remarks of the expansion of ringing practice within Scottish osprey conservation, 'just as it has become routine for us, so it has for some of the adult ospreys, who have clearly learned to recognise the signs when we arrive to ring their young.'<sup>872</sup> Yet, earlier in the same season, 1969, and a decade after the public opening of the site, the senior warden was also able to stand outside of the hide, if not beyond it, cutting away branches that threatened to obscure the volunteers' view of the nest. The bird apparently 'noticed him' but seemed un-concerned by such activity.<sup>873</sup> More recent tales of hammering, sawing and power-tool use during renovations at the observation post have similarly proven, despite initial fears, to have little impact on the birds.<sup>874</sup> Much like the American populations of ospreys, often nesting close to human habitation, the ospreys at Loch Garten appear relatively 'bombproof' with regards to the more regular and routine noise accompanying human presence at a distance.<sup>875</sup> It appears, therefore, that the tolerance of the birds for the noises and sounds in the hide, and even the visible

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meeting of RSPB Council (29 May 1968) RSPB Council Minutes, April 1949-February 1960 – RSPB Sandy, Classmark 01.01.11.

<sup>869</sup> Presuming, of course, that at least one chick hatches and survives until large enough to be ringed, which – for the purposes of this discussion – was not the case in 1971 (robbery), 1975 (suspected pesticide contamination), and between 1985-1987 (loss of the male in 1985 and a subsequent vacuum at the site with the loss of a stable breeding pair) – see Dennis R (2008) *op cit.*

<sup>870</sup> Weir D (June 1970) '1954/1970 breeding data for Ospreys in NE Scotland' A short report on breeding numbers, performance, arrival and dispersion, and ringing of ospreys in Scotland – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>871</sup> Entry from the Loch Garten osprey log for the 1969 breeding season, unknown volume (15 June 1969) – Sheet 10.

<sup>872</sup> Dennis R (2008) *op cit.*: 84.

<sup>873</sup> Entry from the Loch Garten osprey log for the 1969 breeding season, unknown volume (29 April 1969) – Sheet 3.

<sup>874</sup> Interview with Richard Thaxton, *op cit.*

<sup>875</sup> Poole A (1989) *op cit.*; Dennis R (2008) *op cit.*

presence of humans in the distance, expresses itself with a spatial, rather than a perceptual limit on what was an acceptable level of proximity.

Such an account of osprey life existing amidst a landscape of disturbances proposes an ontology of hide work as a relational and involved negotiation of proximity. In this case, the distanced presence of humans, gradually tolerated by the ospreys has produced a bird that is 'differently intelligent' when it comes to sources of noise or activity.<sup>876</sup> With the exception of extreme events, the ospreys appear to have learned *not* to be affected by certain things in their surroundings, or at least have learned that these phenomena are not threatening. This is an 'indifference' that is historically contingent. Narratives of encountering animals in the field by biologists, ethologists and sociologists of science similarly emphasise an embodied reality whereby the proximity needed to conduct research is enabled via the long-term negotiated acceptance of the presence of an observer.<sup>877</sup> For celebrated naturalist J A Baker, roaming the countryside of Norfolk in search of peregrines, his is an account deeply aware of both the role of the body and a need to negotiate the perception of the bird in order to achieve a level of proximity. He would dress in the same clothes, compose himself and travel and move by the same ways. He would present himself to the birds clearly and from far away, and allow them to watch him approach.<sup>878</sup> Within such relations the body of the field worker becomes a 'domesticating device', the proper use of which provides 'a means to create a relation that provides new knowledge', involving themselves in order to ask more interesting questions of their animal subject.<sup>879</sup>

In comparable terms, the hide is a domesticating device: a means of 'drawing animals into a nexus of human concern'.<sup>880</sup> In terms of hide praxis, the notion of birds 'acclimatising' to the presence of hides or observers – accepting their situation in proximity – is explicit in accounts of their earliest use. Francis Herrick, and American pioneer of avian photography, actively attributes the success of hides to birds' capacities to *learn to accept* the presence of hide and camera, and to form new

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<sup>876</sup> Lestel D (2002) op cit.: 56.

<sup>877</sup> See Smuts B (2001) op cit.: 295.

<sup>878</sup> See in particular Baker J A (1967) *The Peregrine*: 13.

<sup>879</sup> Despret V (2004) op cit.: 129.

<sup>880</sup> Anderson K (1997) op cit.: 464

habits.<sup>881</sup> Similarly, the acceptance of a hide by the subjects of bird photographers Hosking and Newberry appears as a similarly active and negotiated process. They describe erecting a hide near a nesting partridge and leaving it for 48 hours before moving it closer to the sitting bird in the days that followed to allow the bird to become used to the structure.<sup>882</sup> In approaching a buzzard's nest, their 'platform hide' in the adjacent tree was erected over a week and left empty with a dummy lens in order to allow the bird to become used to it. To enter and leave this hide, the photographer had to be 'put into' the hide by a companion who would then loudly leave the area, giving the circling raptor the impression that the surroundings of the nest had been vacated of unwelcome human presence.<sup>883</sup> Just as the human wardens have become curious, learning to be more attentive to certain forms or expressions of osprey behaviour, so too have the ospreys nesting at Loch Garten 'learned' that the no doubt curious presence of a hide or large OP, pose no direct threat.

In closing with these accounts and others of disturbance at the nest of the osprey, I have sought to ask how these birds at Loch Garten might have perceived the hide or OP from their eyrie. For me, metaphorically (and actually) turning the CCTV nest camera – now installed to allow wardens and visitors a look inside the nest – back on itself, such that it points away from the birds and towards the distant observation hides, prompts this kind of consideration (Figure 22). This section has argued that the hide was (and is) neither an invisible nor 'neutral' object. It is a *tolerated* one. Ospreys nesting here *accept* human presence as far as the hide, and appear aware that this object emanates occasional noises. When humans proceed further forward than they are permitted, the birds make their displeasure known. The ospreys soon return to their nest – perhaps a little warily – and re-settle when humans retreat. This is an intimate geography of proximity around the nest that has been negotiated by birds acclimatising to certain human presences and the RSPB recognising that current arrangements are 'as close as we can get it without causing anxiety to the ospreys'.<sup>884</sup> This ontology of proximity as relational in the

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<sup>881</sup> Herrick F (1901) *The Home Life of Wild Birds: A New Method of the Study and Photography of Birds*: 5.

<sup>882</sup> Hosking E and Newberry C (1943) op cit.: 1-2.

<sup>883</sup> Hosking E and Newberry C (1943) op cit.: 51-52.

<sup>884</sup> Harvey Burton to R. Young Esq, Fetcham, Surrey (10 November 1970) A reply to the recipient's letter to Waterston on the 3 November regarding his recent visit to Loch Garten

involvement of bodies at a site historicises the relationship of proximity between human and bird, attending to the ways in which animal-human dwelling in place is a contingent, material and negotiated phenomenon.



**Figure 22: The view from the nest? Photograph of the image shown on the monitor in the forward hide when the nest camera is directed (with zoom) towards the public OP (left) and forward hide (right), May 2016. Taken by the author.**

## **7. Conclusion**

The work of the hide, in providing a space of proximity in which to monitor osprey life, continues to the present. The Loch Garten osprey logs cumulatively constitute nearly six decades of continuous observation. This data has provided an evidence base for several analyses of osprey ecology in Scotland and the Western Palearctic region. As a result, life at this nest is invoked through to explain the behaviour of other birds, in other contexts, places and times. Through this work the ospreys of Loch Garten give figurative shape to the genus *Pandion haliaetus*; they are ciphers for osprey 'nature' in general. Yet, as this chapter has shown, the birds at Loch Garten

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and his suggestions for a photographic hide erected closer to the nest – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

– and their tolerance for those observing them – are contingent, lively and often surprising agents. The log is a view from somewhere onto a mere fraction of osprey existence. In terms of a scientific epistemology, and just as Etienne Benson has argued that ‘studies using radio-tags are studies, not of birds, but of radio-tagged birds’, the record of ospreys produced at Loch Garten is not merely one of a singular or transcendent osprey nature.<sup>885</sup> Rather, it documents how ospreys are enacted differently as intelligible, capable, lively or indifferent by way of the hidden involvements and relations of humans in proximity.

This chapter has focussed attention upon the device of the bird hide to explore an understanding of what kinds of relations or involvements such an entity makes possible, and how it acts. I have sought to argue that the space of hide, as both device and an assemblage of devices, is generative and sustaining of multiple, crosscutting ontologies of human-bird proximity. Humans and birds are enacted variously, as invisible and fragile; detached observers and objects of scientific inquiry; curious and surprising; disorientated and sensing; composed and indifferent. The work of the hide might involve ‘observation’ as its primary practice, but such work in turn involves *participating* in the constitution of the osprey’s world, both in intertwined material and discursive ways. Following Ingold, there exists ‘a close coupling, in perception and action, between the observer and those aspects of the world that are the focus of attention’. I have therefore sought to present an account of hide work that reconnects the work of knowing these ospreys ‘with being, epistemology with ontology, thought with life.’<sup>886</sup>

Work in the hide has been transformed by the installation of CCTV equipment since 1989. The temperamental alarm systems around the tree have been removed and the camera offers a candid view into the nest cup. Aspects of osprey behaviour that were previously invisible or obscured – like the event of the hatch or the feeding of young chicks – are now in full view. Ospreys have the opportunity to become more ‘articulate’ as living beings with the addition of such points of view. The output produced by wardens’ hide work also fulfils a different function. In 1990, Trevor Hart, a research biologist at the RSPB, produced a report based on analysis of the

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<sup>885</sup> Benson E (2010) op cit.: 35.

<sup>886</sup> Ingold T (2006) op cit.: 19.



logbooks compiled between 1981 and 1987 in an 'attempt to find any information that would reduce the number of breeding failures at the nest site'.<sup>887</sup> This appears to have been the last substantial analysis of the logbooks. Whilst the records are collated they are no longer subject to the same interrogation at the end of the season.

The format of recording remains essentially the same yet, from my own experience as a volunteer looking back through the logbooks of the current and previous seasons that I discovered stored in the hide, nest life is rendered in far less detail. Former osprey warden Stuart Taylor once proposed stopping the recording of behaviour in the hide whilst in charge of the project. He reasoned there was no need for such continued scrutiny, given what data had been amassed and the analysis that had been conducted. However, those on watch were resistant: 'they get so interested in it, they want to carry on'.<sup>888</sup> For his successor, Richard Thaxton, there was likewise a sense that the purpose of the log as a scientific document was long redundant:

'We still keep the logbook going and, if I'm honest [...] there's an element of it's something for the volunteers on duty to focus on, to keep them alert. That's not to say that it's done for no other reason, but it keeps them alert.'<sup>889</sup>

The logs – and the hide – endure as a series of devices for directing perception and attention onto the nest. This is not a new function, but one at the heart of the note-taking activities encouraged by advocates of the new ornithology.<sup>890</sup> As Frank Hamilton, veteran of that ill-fated watch at Garten in 1958 and the more successful summer of 1959, reflects of the core motivation for logging, it was 'sheer boredom': 'You're sitting there staring at one pair of birds and it brings in a fish, there's this urge to write something – it really is quite strong'.<sup>891</sup>

And so the hide remains a space in which humans learn to be affected by osprey life. It also remains a visible and active part of the osprey's landscape, constituting part of what ospreys come to be as they dwell at Loch Garten. Through its array of

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<sup>887</sup> Hart T (1990) *Loch Garten Osprey Logs, 1981-87* – RSPB Sandy, The Lodge Library, 15-91, R502.

<sup>888</sup> Interview with Stuart Taylor, op cit.

<sup>889</sup> Interview with Richard Thaxton, op cit.

<sup>890</sup> See Nicholson M (1932) op cit.

<sup>891</sup> Interview with Frank Hamilton, op cit.

devices it draws the birds in close, and it orients the perception and attention of humans towards their nest. It generates the conditions to become curious. The comforts of the hide may have increased, but the essential function and relationship of those inside with the birds outside remains to be expressed in familiar and multiple forms. An attention to the space of the hide underlines that, within the involved human-animal relations of conservation knowledge production, '[a]lternative realities don't simply co-exist side by side, but are also found inside one another.'<sup>892</sup>

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<sup>892</sup> Mol A (1999) op cit.: 85.



# Chapter 6

## Nesting Geographies

*(Re)composing osprey geographies in/beyond the twentieth century*

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### 1. Introduction

**Summer 1960:** the ospreys had returned to breed successfully at Loch Garten for a second time. Wardens on Speyside relayed news to George Waterston that a prospecting second pair had been regularly frequenting the former nest tree to the south of the loch, deserted following the nest robbery there. One of Waterston's birding excursions during 1960 had taken him to the east coast of America, where he had both marvelled at a much larger osprey population and witnessed first hand the practice (and successes) of building nesting platforms for the birds to use. According to ornithologist Alan Poole, such practices may have first emerged as early as colonial times in states like New England where farmers encouraged the residence of ospreys on their land by erecting cartwheels.<sup>893</sup> Writing in the early nineteenth century, American naturalist John James Audubon attributes such practices to the 'most erroneous idea' held by farmers and fishermen in coastal regions that 'the Fish Hawk's nest is the best *scare-crow* they can have in the vicinity of their houses or grounds.' The motivation for this nest building, he argued, derived from a folk-myth that 'no Hawk will attempt to commit predations on their poultry' whilst the ospreys were present.<sup>894</sup> Erroneous or not, Scottish naturalist John Harvie-Brown would subsequently write, at the turn of the twentieth century, with an awareness of this American activity. He was perhaps the first to propose its possible application in Scotland as a means of arresting the species' terminal decline, writing:

'In the lakes [in America], where it is desired to protect the nests of Ospreys, long stakes are driven solidly down into the bottom of the lochs, *and even ponds*, and a CART-WHEEL fastened horizontally on the top. These are *readily* occupied by *grateful* Ospreys; and our American cousins add the rider that they are *so grateful*, that they

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<sup>893</sup> Poole A (1989) op cit.: 185-186.

<sup>894</sup> Audubon J (1831) *Ornithological Biography, or an Account of the Habits of the Birds of the United States of America; Accompanied by Descriptions of the Objects Represented in the Work Entitled The Birds of America, and Interspersed with Delineations of American Scenery and Manners*: 416.

never touch the fish of these ponds or lakes but always search for their supplies at a distance.’<sup>895</sup>

At Loch Garten, the nest once adorning the dead tree to the south had blown down by the autumn of 1960. Drawing upon his recent observations, Waterston instructed Roy Dennis, his young osprey warden returning for a second year to Speyside, to affix a cartwheel to the canopy of the old tree during spring preparations the following year. It was hoped this might attract the attentions of the speculating second pair to settle. However, as the 1961 season progressed, no osprey-interest was recorded at the site.<sup>896</sup> The top of the tree would later be sawn clean off by a disgruntled poacher a few months after Dennis had left to take up the warden’s position at Fair Isle bird observatory in early 1964.<sup>897</sup> In his absence, the Society had decided to suspend such activities, given the birds had enough ‘natural’ sites available to them.<sup>898</sup> Within a decade, however, following the return of Dennis to Speyside, taking up position as the RSPB’s Highland Officer from 1971, nest building would soon be revived as a practical means of supporting the osprey’s re-colonisation of Scotland.

This chapter concerns the business of (re)composing the geography of the osprey. I use the term ‘composing’, following Bruno Latour, to understand the world-building as a process of nurturing human-nonhuman collectives.<sup>899</sup> Compositionism in Latour’s thought is concerned less with the fact that entities are constructed (since everything is) and more with the question of whether such work is done *well*. Across more-than-human scholarship attention has been directed to questions regarding who has a say over the work of world-building; which worlds are made

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<sup>895</sup> Harvie-Brown J and MacPherson H (1904) *The Fauna of the North-West Highlands and Skye*: 202 [orig. emphasis].

<sup>896</sup> Waterston G (1962) op cit.: 148.

<sup>897</sup> See Waterston G (1964) ‘Operation Osprey, 1964: A progressed report by George Waterston’ *Bird Notes* 31(4) [accessed at RSPB Sandy, The Lodge library]: 126-129; ‘Operation Osprey 1964: First Monthly Report’ (27 March – 30 April 1964) A report to George Waterston from the senior and assistant wardens on Speyside – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>898</sup> Letter from Mike Everett to DW Elliot (7 January 1969) Reply to Elliot’s previous letter on 1 January concerning the erection of an artificial nest platform at Loch an Eilein – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>899</sup> Latour B (2004b) op cit.; (2010) ‘An attempt at a ‘compositionist manifesto’’ *New Literary History* 41(3): 471–490.

to flourish at the cost of others; and how assembled wholes are sustained.<sup>900</sup> This chapter concerns the involved practice of humans building nests for ospreys in Scotland since the 1970s. Whilst the nest has been implicitly at the centre of this thesis' inquiry, here I stage a more direct encounter with ospreys' geographies of nesting to attempt to conceptualise animal-place relations in a speculative, collaborative and involutionary mode.

This chapter also considers the practices by which osprey relationships to place are (re)forged. To think across the species divide I draw on the 'maverick' and experimental science of ethology and its animal behaviour studies with a strong commitment to fieldwork and research with animals.<sup>901</sup> In particular, I take inspiration from the work of Jakob von Uexküll and Konrad Lorenz. Such thinkers sought to conceptually 'rebuild the world as each animal perceives it.'<sup>902</sup> Those engaged in the practices of nest building seek to do so in embodied and material terms. The nest is a site of involvement between birds, humans and place that has implications for the formation of both human and nonhuman geographical and environmental perception. Given their primarily aerial (and thus, alien) existence, the more ground-based activities of nesting can offer a fruitful route to 'thinking like a bird.'<sup>903</sup> I argue the nest offers both a site through which to fathom the significance of geography in bird life, and the effects of human involvement in these geographies.

This chapter proposes that exploring the geographies of nesting and taking the geographical sensibilities of animals *as animals* seriously develops important insights about the materiality, embodied subject formation and ethical issues emergent through more recent 'experimental' and involved practices of

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<sup>900</sup> See Ginn F (2014) 'Sticky lives: slugs, detachment and more-than-human ethics in the garden' *Transactions of the Institute of British Geographers* 39(4): 532-544; Haraway D (2008) op cit.

<sup>901</sup> Lorimer H (2010a) op cit.: 56-57.

<sup>902</sup> Despret V (2013b) op cit.: 31.

<sup>903</sup> Burton S and Brady E (11 October 2013) 'What is it like to be a bird?' Paper presented as part of 'Winged Creatures', the Glasgow meeting of British Animal Studies Network, October 2013 [A recording of this paper can be accessed at <http://www.britishanimalstudiesnetwork.org.uk/Portals/108/Brady%20paper.MP3>]

conservation.<sup>904</sup> Jamie Lorimer argues that ‘attention to animals’ geographies [...] can help attune to the diverse ways in which nonhuman life inhabits the novel ecosystem of an Anthropocene planet.’<sup>905</sup> Consequently, I develop three arguments. Firstly, that nesting constitutes a situated material, embodied and more-than-representational imbrication of bird and place that can be helpfully understood through Gaston Bachelard’s concept of ‘confidence.’ Secondly, mobilising such a conceptualisation enables a richer understanding of the ways in which humans have sought to involve themselves in nest building as a collaborative project of practical, ‘future oriented’ conservation arising out of a process of ‘becoming osprey’.<sup>906</sup> Finally, I consider the ethical obligations towards nonhuman life that emerge from (and exceed) such an involved act of composition. The chapter develops its conceptual arc through an empirical account of the history and practice of nest building for (and with) ospreys in Scotland. Beginning from the first, tentative attempts described above, I theorise the geographies of nesting, before exploring the emergence of nest building in the early 1970s, and the restoration-composition logic behind it. I describe how nests are built, contrasting a past ‘extensive’ building project with the more cautious and ‘cosmopolitical’ work of contemporary nest builders. The concluding section reflects on the ethical questions I argue to be inherent to the practice.

## 2. Conceptualising nesting’s geography

Nesting is a fundament of bird life, inextricably linked with reproduction. There is a rhythmic temporality to osprey nesting, migrating northward from breeding grounds in spring with the melting of sea ice, and the movement of fish back to shallow, warmer waters.<sup>907</sup> Having begun this chapter with the failure of the ‘cartwheel nest’ in 1961, I want to draw from this and other early attempts at human involvement in the nesting geographies of ospreys (see Chapter 3), as well as scientific accounts of nesting biology, to approach nesting conceptually in a way

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<sup>904</sup> See Latour B (2004c) op cit.; Lorimer J and Driessen C (2014) ‘Wild experiments at the Oostvaardersplassen: rethinking environmentalism in the Anthropocene’ *Transactions of the Institute of British Geographers* 39(2): 169-181.

<sup>905</sup> Lorimer J (2015) op cit.: 176.

<sup>906</sup> I take the notion of ‘future oriented’ conservation developed by Choi Y (2004) as it is deployed in relation to re-wilding by Prior J and Brady E (forthcoming) ‘Environment Aesthetics and Rewilding’ *Environmental Values* [Accessed ahead of print at: <http://www.whpress.co.uk/EV/papers/Prior.pdf>]: 9.

<sup>907</sup> Poole A (1989) op cit.

that asks how ecological issues might usefully inform social theory.<sup>908</sup> In this first section I characterise osprey nesting through attention to the material and embodied registers and affects of involvement between ospreys and place. I follow Ben Anderson to consider these affects of nesting practically in terms of ‘what a body may be able to do in any given situation, in addition to what it currently is doing and has done’, whilst acknowledging that as an agent’s capacities arise in relation ‘they can never be exhaustively specified in advance.’<sup>909</sup> Therefore affects refer to those ‘more-than-representational’ forces – ‘energies, attunements, arrangements and intensities of differing texture, temporality, velocity and spatiality’ – that move, mediate, and make a being’s ability to nest somewhere.<sup>910</sup> To encapsulate these aspects of nesting I develop Gaston Bachelard’s notion of ‘confidence’ below.

### **Conceptualising nesting as confidence**

Amidst Bachelard’s *Poetics* I find fertile ground for thinking with and about animals’ geographies. The nest is a frequent metaphor in architecture and architectural theory, one he uses to conjure organicist ideas of security and home. Nests are idealised structures, embodying the possibility of perfect synthesis between corporeality and built form. They epitomise ‘the most perfect of dwellings’.<sup>911</sup> They captivate with their utilitarian elegance, functional fragility, and a beguiling-yet-hidden presence.<sup>912</sup> In this vein, Bachelard ruminates upon the nest within his broader musings on the rhythms and phenomenology of built spaces. In particular, his appreciation is influenced by the late-nineteenth century writing of French naturalist Jules Michelet, who describes the nest as ‘less a *weaving* than a *condensation*’ of material(s), labour and corporeality.<sup>913</sup> For Michelet and Bachelard the nest represents ‘a creation of love,’ shielding young and reflecting the ‘precaution and anxiety’ inherent to the work of knitting generations together.<sup>914</sup> Bachelard develops such sentiments, encountering the nest as

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<sup>908</sup> In the vein of Hird M (2010b) op cit.: 737.

<sup>909</sup> Anderson B (2014) op cit.: 10.

<sup>910</sup> Lorimer H (2008) op cit.: 552.

<sup>911</sup> Robinson S (2011) *Nesting: Body, Dwelling, Mind*: 2; Umebayashi K (2005) ‘Nesting: Beyond Objects to the Bodily Experience of Space’ in Umebayashi K, Daniell T, Webb M, Allison P, Kojima K (eds) *FOBA: Buildings* (Princeton Architectural Press; New York): 9-11.

<sup>912</sup> Sandrisser B (1994) ‘Valuing the ordinary: The poetics of wood in traditional japan’ *The Journal of Value Inquiry* 28(2): 281-295.

<sup>913</sup> Michelet J (1869) *The Bird*: 249 [orig. emphasis].

<sup>914</sup> Michelet J (1869) op cit.: 249-250.



‘a precious thing, and yet it sets us to *daydreaming of security*. Why does this obvious precariousness not arrest daydreams of this kind? The answer to this paradox is simple: when we dream, we are phenomenologists without realising it. In a sort of naïve way, we relive the instinct of the bird, taking pleasure in accentuating the mimetic features of the green nest in green leaves. [...] And so when we examine a nest we place ourselves at the origin of confidence in the world, we receive a beginning of confidence, an urge towards cosmic confidence. Would a bird build its nest if it did not have an instinct for confidence in the world?’<sup>915</sup>

I argue the term confidence allows one to make explicit an affective and lived dimension that is already implicit to ornithological discussions of osprey nesting. One example might be the manner in which both Waterston and Poole describe the ‘magical attraction’ to the birds of nest sites near water.<sup>916</sup> Another is found in Clinton Abbott’s early-twentieth century descriptions of the osprey colony on Gardener’s Island, New York. He postulates that across a diverse array of nesting situations there is always ‘the suggestion of an eminence’ – some affect of space – that ‘first attracted Ospreys to the spot’ upon which they later built.<sup>917</sup> The more recent sentiments of ecologist Ian Newton similarly reflect Bachelard’s observations when he writes of how birds of prey invariably ‘choose *special places* for their nests.’<sup>918</sup>

In Bachelard’s figuring of the idealised domestic structure as a ‘nest-house’ he characterises the nest as an expression of ‘confidence in the world’, reverberating and felt across species lines. The tree in the garden, by supporting a nest, evokes both an attachment and a sense of security in *us* as much as for the birds that dwell within its branches.<sup>919</sup> I want to advance this notion of confidence to advance a conceptualising of osprey nests and nesting practices as a *dwelt* relationship, emerging from contingent avian involvements in the world. In doing so I tentatively speculate that *the osprey attempts to nest somewhere that has qualities suggestible to it of successful nesting, and that these qualities are not fixed but emerge in and through the historically active relations of a world-in-information*. A notion of osprey nesting confidence – as an experiment in ethological, creaturely thinking – acknowledges both the more-than-human attachment to, and ‘charm’ of, place, alongside the

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<sup>915</sup> Bachelard G (1994) op cit.: 102-103 [orig. emphasis].

<sup>916</sup> Poole A (1989) op cit.: 89; Waterston G (1962) op cit.

<sup>917</sup> Abbott C (1911) *The Home Life of the Osprey*: 15.

<sup>918</sup> Newton I (1979) op cit.: 39 [my emphasis].

<sup>919</sup> Bachelard G (1994) op cit.: 97.

more-than-genetic forces that propagate and sustain said attachments.<sup>920</sup> I now want to expand this conceptual framework via a discussion of osprey nesting in its material and *lived* dimensions.

### **Confidence as material and embodied**

In contrast to the romance of architectural critique, within avian biology birds' nests have long appeared as essentially functional, 'utilitarian' structures, existing to facilitate the processes of avian reproduction.<sup>921</sup> Mike Hansell frames nests as examples of 'animal architecture'.<sup>922</sup> He draws upon the arguments of evolutionary biologist Richard Dawkins to conceive of such structures as part of a bird's 'extended phenotype': behavioural characteristics that express a genetic heritage and which – akin to the dam of the beaver or the hive of a bee – have emerged as part and parcel of its evolutionary development, as much as have its wings or beak.<sup>923</sup> Hansell argues that such structures, built by non-humans (and indeed humans), aim to stabilise and extend a fraction of control over a creature's immediate environment: for example, by insulating against a cold climate, defending against predators, or mitigating other phenomena that might reduce either the chance of survival or peak levels of (re)productivity.<sup>924</sup> Such examples of species modifying their surroundings in this manner are termed 'niche construction' within evolutionary biology.<sup>925</sup> It is argued that many species have evolved to actively shape certain material conditions, altering selection pressures as well as promoting certain forms of 'social life'. Thus, within a symbiogenetic understanding of ecology, the production of particular material environments is one of many 'inheritance systems'. Such feedback systems shape the direction of an organism's development and the formation of communities, as composed of 'fully alive organisms [...] and their ecological relations.'<sup>926</sup>

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<sup>920</sup> Lorimer H (2006) op cit.

<sup>921</sup> Dixon C (1902) *Birds Nests: An Introduction to the Science of Ornithology*: 6.

<sup>922</sup> Hansell M (2005) *Animal Architecture*.

<sup>923</sup> See Dawkins R (1982) *The Extended Phenotype*.

<sup>924</sup> DeLanda M (2000) op cit.; Hansell M (1984) op cit.; (2000) op cit.

<sup>925</sup> See Laland K *et al* (2000) op cit.

<sup>926</sup> Jablonka E and Lamb M (2002) 'Creating bridges or rifts? Developmental systems theory and evolutionary developmental biology' *Bioessays* **24**: 291, quoted in Lulka D (2004) op cit.: 444; Margulis L and Sagan D (2002) op cit.: 39.

To build from these notions, one might begin to understand the materiality of osprey confidence through attention to both historical and contemporary avian biology, ecology and ethological accounts of the species. Across the eyries of all sub-species there are common characteristics to site preference and architectural style. Osprey nests are large, distinctive structures: geographical ‘landmarks’ for birds *and* people.<sup>927</sup> In 1851, the Reverend F.O. Morris, describing the ospreys then breeding across the Highlands and on the southwest coast England, notes the eyries’ large size, ‘a mass easily discernible at the distance of half a mile or more, and in quantity enough to fill a cart.’<sup>928</sup> Taken as a species, ospreys are both adaptable and gregarious, historically nesting in a wide variety of locations and situations. Birds appear drawn to open, elevated structures; ‘prominent within their surroundings,’ that afford a view to spot predators and a clear approach from above to bring in fish and nest material.<sup>929</sup> In 1911, Clinton Abbott documented the diverse array of structures and situations on Gardiners Island that fulfilled this role for the colony of ospreys there, including nests on trees, buoys, jetties and even some being built on the ground in the absence of predators.<sup>930</sup> Structures must be stable: eyries have to be bulky enough to withstand winds in their exposed positions, and they can grow to over three feet in diameter and height (Figure 23).<sup>931</sup> A primary control on nesting location and density is the proximity (within 20 kilometres) and quality of fishing grounds.<sup>932</sup> The presence of humans or other birds of prey as sources of disturbance might also affect the choice of site. Ospreys can also nest colonially, as observed in America, but tend towards a solitary existence in the UK.

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<sup>927</sup> Poole A (1989) op cit.: 85.

<sup>928</sup> Morris F (1851) *A History of British Birds: Vol. 1*: 27.

<sup>929</sup> Hardey J et al (2009) op cit.: 151.

<sup>930</sup> Abbott C (1911) op cit.: 14-15.

<sup>931</sup> Dennis R (2008) op cit.

<sup>932</sup> Cramp S et al (1980) op cit.



**Figure 23:** Photograph of a replica osprey nest at Kailzie gardens osprey centre, Peebles, July 2013. Taken by the author with A5 notebook for scale.

The capacity of sites to affect confidence for passing ospreys is also refracted through the inter-generational inheritance of sites and site preferences. Pairs that nest successfully will, if both survive migration, tend to reunite at the same eyrie each spring. Nests might endure for decades (or more) with annual maintenance and occupation.<sup>933</sup> Beyond the affective relation of the pair-bond, the situation of a nest further shapes the geographical affinities of ospreys. Evidence suggests that ospreys are *naturally philopatric*: young birds showing a tendency to return to the regions from which they originated, and often opting to nest amidst similar surroundings to those from which they fledged. Newton understands this in terms of an ‘imprinting to area.’<sup>934</sup>

Imprinting – the shaping of the behaviour of young through their relation to a ‘parent’ figure – is much discussed within ethologist Konrad Lorenz’s animal encounters as he seeks to study the processes shaping bird behaviour. I use Lorenz’s observations, based on raising a young Jackdaw – ‘Jock’ – to broach the significance

<sup>933</sup> On the longevity of animal architecture see Hansell M (1993) ‘The Ecological Impact of Animal Nests and Burrows’ *Functional Ecology* 7(1): 10.

<sup>934</sup> Newton I (1979) *op cit.*: 87, 272.

of these kinds of intergenerational (and potentially cross-species, as discussed below) entanglements for both the character of a bird's life and its future articulations. He describes rearing Jock, feeding him worms, and trying to teach him to fly.<sup>935</sup> In her own analysis, Despret writes of how Lorenz 'becomes bird', rearticulating his body in new ways of communicating with the young Jackdaw. Jock, in turn, also responds to Lorenz as a parent figure, in ways that a bird developing outwith relations of such human involvement might not.<sup>936</sup> From this experience, and others, Lorenz proposes an understanding of the emergent sociality of avian beings as follows:

'Like the stones of a mosaic, the inherited and acquired elements of a young bird's behaviour are pieced together to produce a perfect pattern. But, in a bird that has been reared by hand, the natural harmony of this design is necessarily somewhat disturbed. All those social actions and reactions whose object is not determined by inheritance, but acquired by individual experience, are apt to become unnaturally deflected. In other words, they are directed towards human beings, instead of fellow-members of the bird's species.'<sup>937</sup>

In the same way, we might appreciate that young ospreys similarly display an 'ontological openness' during the pre-fledging period.<sup>938</sup> It is on approaching fledging, and in their first flying forays around the nest area, that decisive associations with geography appear to be formed. Young ospreys, returning to find a mate and nest site, therefore inherit both a network of material sites, or 'niches', to colonise *and* a set of spatial preferences comprising emergent, localised 'traditions' (or cultures) transmitted between generations of birds.<sup>939</sup> Thus site confidence, aside to involving meeting certain criteria in the environment, is embodied and lived. The absence of ospreys from the haunts and landscapes where they were once known to breed, as discussed in the following chapter, emphasises the active role that such relational inheritance plays in sustaining osprey geographies.

## **An image of confidence**

The re-colonisation of Scotland's osprey population is thought to have been driven by the re-settling of migrating Scandinavian birds. It has been argued that the

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<sup>935</sup> Lorenz K (1972) op cit.

<sup>936</sup> Despret V (2004) op cit.: 130-131.

<sup>937</sup> Lorenz K (1972) op cit.: 147.

<sup>938</sup> van Dooren T (2014) op cit.: 102.

<sup>939</sup> Newton I (1979) op cit.: 82.

resonance between the pinewood habitats of Speyside and those of Norway and Sweden first attracted passing ospreys to nest here.<sup>940</sup> In constructing the cartwheel nest in 1961, Waterston was assuming that a tree-nesting Scandinavian *P.h. haliaetis* would respond to such a structure in the same way as he had observed their American *carolinensis* cousins could, accepting it readily as a nest site. But this assumption belies what van Dooren terms the ‘species thinking’ of conservation biopolitics.<sup>941</sup> Disparate, situated communities of beings are stripped of context, rendered commensurable and interchangeable populations on the basis of genetic criteria and in the pursuit of preserving life, as opposed to *ways* of life. The cartwheel was the material-discursive expression of this erroneous idea on Speyside: that two distinct osprey lineages – separated by thousands of years of environmental isolation and miles of sea – inhabited the same ecological niches in the same way.

The failed cartwheel of 1961 is a good example of the interplay of the two registers of confidence that I have described: the material (or functional) and the embodied (or lived). Whilst the nest ‘site’ of South Garten might have once met with osprey approval, the second pair were not attracted by – or did not recognise – the erected platform. Confidence in a nest may well rely upon appealing certain material criteria that mean a site can physically support a nest and the presence of birds, or that it is situated within a certain distance of a viable food source. However, the rejection of the cartwheel at a site known to have previously been tenanted by ospreys suggests further that ‘nestable’ criteria are not innately recognised but actively perceived in relation to the processes by which osprey subjectivity is constituted. Osprey subjects emerge in the course of ‘the organised and open-ended embodiment of a life process’ unfolding in the world.<sup>942</sup>

To invoke a second ethological perspective, we might conceptualise the difference in appearance between a cartwheel and a nest for an osprey circling over Speyside in the 1960s with reference to Jakob von Uexküll’s notion of a ‘search image’ or

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<sup>940</sup> Österlöf S (1977) ‘Migration, Wintering Areas, and Site Tenacity of the European Osprey *Pandion h. haliaetus* (L.)’ *Ornis Scandinavica* 8(1): 61-78.; Interview with Roy Dennis, op cit.

<sup>941</sup> van Dooren T (2014) op cit.: 117.

<sup>942</sup> Lestel D (2002) op cit.: 49.

‘tone’.<sup>943</sup> For von Uexküll, the perceived environment differs for each subject in accordance with their corporeality by way of a perception of the body’s ‘effect space’: the surfaces, mediums and objects that afford agents with the possibility for action, be it moving, sensing or nesting.<sup>944</sup> The perception of the ‘nestable environment’ for the osprey is constituted in part through the bodily capacities of the bird – nesting in places that support nests – but also through an acquired or learned perception whereby certain sites or features resonate with the appropriate search tone to ‘inspire’ recognition of the nestable.<sup>945</sup>

Combining von Uexküll’s notion of tones with a recognition of the processual subject formation inherent to Lorenz’s conception of imprinting, cartwheels are manifest as a nest site to some birds – those accustomed to such sites – but not others – lacking such experience. The same object of perception (the cartwheel) thus appears differently to each subject (a nest site or an unrecognisable feature) within differently enacted environments.<sup>946</sup> Birds of prey may be ‘extremely stupid creatures’ compared to humans, but the failed cartwheel demonstrates at least that their relationships with the environment are geographically and culturally specific.<sup>947</sup> Osprey life therefore requires a conceptual approach accommodating of the aspects of animal life that arise from being a being *in the world*. As Despret writes of applying von Uexküll’s insights to an understanding of the animal world: ‘understanding another being’s perspective requires the researcher to take into account the fact that some things are *more* meaningful than others; it requires the observer to give them some worth, some affective values.’<sup>948</sup> American ospreys were familiar with such structures by the 1960s, having had a long, and uninterrupted, period of adaptation first to general human structures and later to purpose-built nest-platforms.<sup>949</sup> The Scandinavian birds that re-colonised Britain and nested at Loch Garten did not share this history of infrastructural involvement.

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<sup>943</sup> von Uexküll J (2010) op cit.: 113-118.

<sup>944</sup> I draw upon the notion of environmental affordance as proposed by Gibson J (1986) op cit.

<sup>945</sup> Despret V (2013b) op cit.: 40-41.

<sup>946</sup> von Uexküll J (2010) op cit.: 126.

<sup>947</sup> Lorenz K (1972) op cit.: 69.

<sup>948</sup> Despret V (2013a) op cit.: 55.

<sup>949</sup> Henny C and Kaiser J (1996) ‘Osprey Population Increase along the Willamette River, Oregon, and the Role of Utility Structures, 1976-93’ in Bird D, Varland D and Negro J (eds)

Beings are only ever recognisable by the lines, trails and structures they move along, through and leave behind, amidst the meshwork of entangled relations that constitutes the on-going formation, or 'storying', of environments.<sup>950</sup> For Ingold, '[t]he names of animals are not nouns but verbs': osprey nesting is a wholly involved relationship between bird and place, definitive of particular communities and cultures of avian life.<sup>951</sup> Particular associations between birds and place develop as situated blocks of becoming, arising out of the infolding of site recognition into the formation of subjectivity through mechanisms of imprinting that, in turn, shape environmental perception. Nests are geographical attachment sites: they are the location where both a relationship with particular landscapes and features, and a particular articulation of avian confidence, are brought into being. But it is also the case that, for ospreys, 'environments are never complete but are continually under construction' as beings emerge from and within a 'world in formation'.<sup>952</sup> The built forms of humans and nonhumans 'arise within the current of their involved activity, in the specific relational contexts of their practical engagement with their surroundings' and it is to this kind of mediation of site confidence through the lived currents of an affective ecology that I now turn.<sup>953</sup>

### **Frustration and affective ecologies of confidence**

I want to consider the *loss* of confidence in sites to argue that whilst the relationship between site and bird is not pre-determined by the situation of its hatching, but continually modulated by a world of affective forces. This discussion develops that of Chapter 3 concerning the encounters between osprey conservationists and the phenomenon of 'frustration' nesting over first decade of Operation Osprey. I have described how George Waterston realised the birds might abandon a site if they experienced undue disturbance there, as the shift to the north east of Garten from the robbed eyrie in the south demonstrated. Such behaviour was deployed in narratives of the birds as fragile and timid, legitimating the exclusion of non-RSPB personnel from the area in line with a militarised strategy of species protection. I

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*Raptors in Human Landscapes: Adaptions to Built and Cultivated Environments* (Academic Press; London): 105.

<sup>950</sup> Ingold T (2011) *Being Alive: Essays on Movement, Knowledge and Description*.

<sup>951</sup> Ingold T (2006) 'Rethinking the Animate, Re-Animating Thought' *Ethnos* 71(1): 14.

<sup>952</sup> Ingold T (2000) op cit.: 13, 172.

<sup>953</sup> Ingold T (2000) op cit.: 186.



also described in the same chapter how engagements with the nest during the 1960s, particularly following periods of heavy storm damage in 1963 and 1966, aimed to manage this tendency to desert, inducing the birds to remain when they did so within the confines of an apparatus for their protection and display.

What Waterston and others at the RSPB encountered first in 1958, and later in 1963 and 1966, they at first referred to as 'repeat' nesting.<sup>954</sup> This behaviour has since been termed 'frustration' nesting following the early 1970s American nest-monitoring of raptor ecologist Sergei Postupalsky.<sup>955</sup> He defines such structures as 'an alternate nest built, repaired, or frequented by a pair of birds subsequent to a nesting failure at another nest during the same breeding season.'<sup>956</sup> Whilst this phenomenon can be observed in other large raptor species, he notes that it appears particularly pronounced amongst ospreys. If a nest should fail – perhaps due to extreme weather, disturbance or robbery – then there is the possibility the birds will desert the site and begin to build an alternative eyrie elsewhere during the remainder of the season. The old nest remains, a trace of experienced trauma, to be potentially re-colonised by another pair. Meanwhile, frustration nests (occasionally several are built) appear within around five kilometres from the original site.<sup>957</sup> In many cases if a pair returns from migration the following year they will utilise one of their new sites over that previously deserted.

This phenomenon demands a dwelt understanding of birds' 'site faith'. Following a traumatic event – incidents inciting desertion at Loch Garten included nest robbery and the loss of the eggs during high winds – the confidence of an osprey pair in a nest might be lost. Although Postupalsky stresses that with the term 'frustration', 'no implication relative to the psychological state of the birds is intended,' such language invites speculation into the affective and perceptive existence of ospreys.<sup>958</sup> Frustration demonstrates that osprey attachment to place is expressed

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<sup>954</sup> Brown P (1962) op cit.: 20.

<sup>955</sup> See Dennis R (2008) op cit.; Hardey J et al (2009) op cit.; Newton I (1979) op cit.

<sup>956</sup> Postupalsky S (1973) Raptor Reproductive Success: Some Problems with Methods, Criteria, and Terminology' in Hamerstrom F, Harrel B and Olendorff R (eds) *Management of Raptors: Proceedings of the Conference on Raptor Conservation Techniques, Fort Collins, Colorado, 22-24 March, 1973 [Part 4]* (Raptor Research Foundation; Vermillion SD): 26.

<sup>957</sup> Hardey J et al (2009) op cit.: 151.

<sup>958</sup> Postupalsky S (1973) op cit.: 27.

and constituted through a profoundly 'affective ecology.'<sup>959</sup> The lived experience of nesting success, trauma, and disturbance feed back into a bird's attachment to site, as well as serving to make sites available for other birds, in a manner resonant with Ingold's understanding of one's expression of dwelling as an active outcome of involvement in the world.<sup>960</sup> The affects of seasonal life at the nest are folded back into the way in which certain sites come to be imbued with avian confidence. Rather than merely some expression of an internal genetic logic, or the context of juvenile development in the nest, nesting confidence is actively remade and negotiated amidst the heterogeneous flows and rhythms that characterise a particular environment and its milieus.

Moreover, given that – as I have described – the conditions of a site influence the nest preferences of those young ospreys that later fledge from it, it follows that past traumas might echo through future generations if the frustration site is significantly different. Frustration might offer a 'line of flight': a rupturing of site preference that opens onto new forms of osprey life within, as well as between, differently situated osprey communities.<sup>961</sup> Yet, the phenomenon also demonstrates the strength of ties to place *despite* such ruptures. The tendency to build within five kilometres of a deserted nest site implies that regions – perhaps due to the strength of natal affiliations – retain a 'stickiness' within avian emotional geographies.<sup>962</sup> Accordingly, such regional stickiness as 'site faith' is, vice versa, a *faith in the site*, shaken or lost through trauma. Where trauma refers for Ben Anderson to a 'shattering of the self,' frustration behaviour might demonstrates attempts to re-territorialise the geographical self in place. Such structures involve renegotiating a sense of confidence in the region by way of a territorialising refrain of locating, preparing and speculatively *hoping* for a more confident return the following year.<sup>963</sup> Affective experience and success at nests appears as the vital glue attaching a nebulous confidence to one particular site over other, equally suitable sites.<sup>964</sup>

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<sup>959</sup> Hustak C and Myers N (2012) op cit.: 82.

<sup>960</sup> Ingold T (1994) op cit.

<sup>961</sup> Deleuze G and Guattari (2013) op cit.: 10-11.

<sup>962</sup> Ahmed S (2004) op cit.: 11.

<sup>963</sup> Anderson B (2014) op cit.: 65.

<sup>964</sup> To evoke the usage of Brian Massumi's phraseology in Lorimer J (2008) op cit.: 398.

As such, confidence in nests exceeds merely the material or the embodied practice of perceiving the nestable. Whilst certain environmental conditions are evocative or affordant of nest-building, perception of these is mediated by both inherited and lived experience – as well as knowing *how* to build in the landscape (as I discuss below). Nests, then, like all assemblages, ‘are not reducible to the material collectives that they emerge from’.<sup>965</sup> In the following sections, I mobilise this conceptualising of the material and lived confidence in nesting geographies to underpin an exploration of the history and practice of human nest building. I begin with the origins of nest-building practice, located in a process of ‘becoming osprey’.

### **3. Hailing an interest in nest building**

The cartwheel failure briefly ended human forays into nest building in Scotland and in the autumn of 1963, junior warden Roy Dennis left Speyside to take charge of the Fair Isle Bird Observatory. As I’ve described, much of the attention paid to nests during the remainder of that decade was concerned with either better securing the Garten site (Chapter 3) or in attempting to fathom the shifting location of a possible ‘second pair’ nearby (Chapter 4). When Dennis returned to Speyside in 1971 – appointed the RSPB’s ‘Highland Officer’ – nest building again came under consideration. Having sketched out a conception of nesting confidence above, I turn here to the emergence of nest building practice in Scotland as a process of ‘becoming osprey’ via curiosity in nest sites and attunement to avian landscapes. I also characterise the restoration logic that would come to drive this project of composition as one oriented towards a future of osprey abundance.

#### **Curiosity for nests and ‘becoming osprey’**

In his new role Dennis’ attention was directed away from Speyside as he became responsible for monitoring a steadily increasing osprey population across the Highlands. By 1972 there were 13 known pairs, 7 of which laid eggs.<sup>966</sup> Dennis was drawn to new sites by reported osprey sightings, discovering more and more built as the birds spread further afield. As this work expanded over the following decades and he recruited more and more people to assist his surveys. The trends in both the numbers of nesting pairs and acknowledgements of human assistance

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<sup>965</sup> Anderson B (2014) op cit.: 13.

<sup>966</sup> Dennis R (1993) ‘Ospreys in Scotland: Osprey Newsletter No. 20’ Prepared by Dennis and the RSPB with details of the 1992 breeding season in Scotland – SOC, ‘Raptors’, Box 19.

show a steady, parallel increase over the course of the 'Osprey Newsletters' that Dennis produced annually from 1972. These bulletins were for the benefit of both landowners and gamekeepers (on whose land the birds nested); and those involved in monitoring work to keep track of the re-colonisation as it unfolded. Each site was allocated a code number, known only to the relevant landowner and Dennis, ensuring guarded secrecy (see Chapter 3). Following leads from estate owners, local contacts and reported sightings, Dennis sought out and recorded additional nests each year.

Such work also appears to have provided the beginnings of a curiosity in osprey nesting. Recalling this monitoring work at sites across Moray, Sutherland, Perthshire and elsewhere, he describes birds battling against stormy conditions as they built up their nests. Witnessing eyries 'slowly being dismantled by the wind' made it appear 'obvious how important it was for ospreys to build their nests in secure trees'.<sup>967</sup> These moments sparked a curiosity that was in turn, as Haraway writes, the conduit for care and the paying of attention to the lives of others.<sup>968</sup> Dennis found himself curious about the practices of nesting, and what he might do to assist in birds' efforts.

I want to argue that these ospreys, encountered in the field, constituted 'anomalous individuals': those members, real or imagined, amidst the affective 'packs' in which Giles Deleuze and Felix Guattari locate the multiplicity of animal being, that invite a 'becoming animal' by proposing the possibility for partial or temporary alliance between species.<sup>969</sup> For Deleuze and Guattari, to 'become animal' one does not imitate animality. Rather, one (partially) dissolves aspects of 'molar' being, partaking in a de-territorialising of the self. So, for Dennis working in the landscape, he had to open his perception and ontology to new modes of existing. Dissolving ways of moving, thinking or sensing like a human and allowing his knowledge and experience of osprey nesting practices to direct him; he would approach a different experience of space. For Deleuze and Guattari, this disassembly of the self makes one available to reassembly via the contagious forces of an 'animal peopling'; the

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<sup>967</sup> Dennis R (2008) op cit.: 131.

<sup>968</sup> Haraway D (2008) op cit.: 32.

<sup>969</sup> Deleuze G and Guattari F (2013) op cit.: 286-287.

awakening or re-working of the capacities of the body that enact a state of corporeality and perception more attuned to an (speculative) animal state of existence.<sup>970</sup> Some becomings are temporary, some are more permanent, but all initiate an affective change in the capacities of being.

In particular I find it useful to follow Mark Bonta's development of Deleuze and Guattari here, considering the 'becoming osprey' of nest building as a 'becoming-landscape'.<sup>971</sup> In his account of competitive bird surveys, Bonta's relationship with his surroundings is transformed. He comes to perceive them (and the possibilities they offer for action) differently, reworking his own ontology of landscape into one more aligned with (what he imagines of) avian experience. This is a speculative and embodied encounter with what it means to dwell like a bird, measurable in its success in terms of the number of birds he was able to locate and identify. In the same way, cultivating a curiosity in osprey nesting involved 'learning to be affected' by ones surroundings in a more 'osprey-like' fashion, so as to fathom the environmental affects of nesting confidence.<sup>972</sup>

Within Dennis' own trajectory of curiosity-driven becoming, his experiences in the field seem to have engendered a similar re-articulation towards the broader environment, what it could (be made to) offer the osprey, and the contours of osprey site preference that I term confidence. He recalls one of the earliest nests he reconstructed, possibly in 1974, after his return to Inverness-shire.<sup>973</sup> Faced with a damaged nest, Dennis describes his decision to repair it arising out of the realisation that he *could* intervene in such a way:

'The first one I really remember is there was a nest [...] and one summer, it was on a dead tree, which wasn't very secure, and the nest fell out, and the keeper saw it – saw that something had happened – and we knew that there was a chick in the nest and we went over and the chick was on the ground. And I remember him phoning me up saying, "Shall we take it to the wildlife park [at Kincaig]?" and I said, "No, we'll go and build the nest." So we went that day – I think the nest blew down the previous day – we went and I built a new nest. I just made a platform, put the nest in, put the chick in, and the parents came immediately and fed it. And I think that was the first one we did.'<sup>974</sup>

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<sup>970</sup> Deleuze G and Guattari F (2013) op cit.: 281-283.

<sup>971</sup> Bonta M (2010) op cit.: 149.

<sup>972</sup> Despret V (2004) op cit.

<sup>973</sup> See his account in Dennis R (2008) op cit.: 137.

<sup>974</sup> Interview with Roy Dennis, op cit.

Following these early successes, Dennis soon began to expand his duties in the course of monitoring to include nest repair when he happened upon damaged eyries. In turn, such an involvement led him to visit known sites during the early spring, before the birds returned, as well as throughout the breeding season after bouts of bad weather, to see if nests required re-securing. He had been 'hailed' into curiosity by his initial proximate encounters with birds – to borrow Haraway's application of Louis Althusser's notion of subjects 'hailed' into particular forms being by discourses.<sup>975</sup> In turn he had nourished a situated and practical knowledge of osprey life, prompting his intervention. This curiosity for osprey nesting was bound up with his becoming osprey: he had begun to tune into the requirements for nesting confidently. Active and experimental involvements of care and re-composition soon led him to realise

'that we could anchor these nests much better by cutting the top of the tree down to the first good fork and building a nest so that the following spring the ospreys could return and breed successfully. This also led us to building nests *on spec* in new areas to encourage new pairs of birds.'<sup>976</sup>

Such involvement nurtured an intuitive and tacit sensibility for nest-craft. He would check up on pairs and, when they departed on migration, tie in the bases of nests susceptible to harsh weather with wire or string. He would engineer ospreys' eyries to make sure that they would endure, and support the work of the re-colonisation.

### **Restoring an osprey geography**

For Dennis, such intervention was also a pragmatic conservation tactic. Actively re-composing a geography of nesting confidence was necessary to restore the extinct osprey population. It was the case that birds might 'waste valuable time early in the season attempting to rebuild damaged nests' resulting in years of wasted potential procreation.<sup>977</sup> From historical sources it appears that past osprey nesting occurred within a landscape of maintained and persistent niches (see Chapter 7) comprising an inherited, pan-generational osprey life-world. These points of recognised

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<sup>975</sup> Haraway D (2008) op cit.: 39, 278-279.

<sup>976</sup> Dennis R (2008) op cit.: 131.

<sup>977</sup> Dennis R (October 1985) 'Contribution to Osprey Management in the British Isles' Report prepared by the RSPB Highland office – RSPB Sandy, accessed at The Lodge library, 43-1985, NC12.12.2678 R1546: 2.

confidence emerged in the lived, relational 'meshwork' woven between the labours of dwelling birds, their inheritances and their seasonal returns.<sup>978</sup> Sizeable nests would have been annually occupied, until the eradication of the osprey community required to sustain their existence. For Dennis, trying to foster growth amongst a returning osprey population, he reasoned that young birds, beginning to return upon maturity to nest in Scotland in the 1970s, were encountering an abnormally impoverished landscape, lacking the niches and open spaces that it had done in the past. As he articulates:

'Once you've destroyed all the birds – like we did in Britain – you've then got no nests left so the new birds that are going to colonise Britain have to got to all build their nests, which is not what most ospreys do in a normal situation.'<sup>979</sup>

The re-colonisation had been painfully slow until the late 1960s, with only a single breeding pair until 1967. Besides the possible deleterious impact of pesticides (see Chapter 4), it took time and effort to establish a new nest site. A young osprey had to first locate a site that was recognisably nestable before it could begin to build a structure with the integrity to support reproductive work. Few natural trees could house such a large nest. One study in Finland showed that less than one in a thousand within a mature forest were capable of supporting the similar eyrie structures built by the white-tailed eagle (*Haliaeetus albicilla*).<sup>980</sup> The building projects of young birds were also often 'protracted affairs', unused for breeding 'until the second year' if at all.<sup>981</sup> Often 'abandoned attempts at nest building' were evident throughout 'osprey country' during the breeding season, marked by 'sticks and clumps of grass dangling from the tops of trees.'<sup>982</sup> Part of establishing a new nest, it appears, involved learning how to build one. First, there had to be a feeling for confidence in the landscape, then there came the weaving together of appropriate materials. Since building often involved a serious investment of energy, in a season where a nest was first constructed previous little time remained for breeding activity.<sup>983</sup>

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<sup>978</sup> Ingold T (2011) op cit.

<sup>979</sup> Interview with Roy Dennis, op cit.

<sup>980</sup> Newton I (1979) op cit.: 81.

<sup>981</sup> Dennis R (October 1985) 'Contribution to Osprey Management in the British Isles', op cit.

<sup>982</sup> Poole A (1989) op cit.: 87-88.

<sup>983</sup> Hansell M (2000) op cit.

As I now describe, Dennis and others would utilise their attunement to osprey building to recognise sites evocative of an osprey confidence, subsequently building a structure that would attract the birds. If successful, they might restore a lost geography of niches and short circuit the need for ospreys to establish new ones alone. Human-osprey nest building would emerge, therefore, from the response to encountered struggles of ospreys in the field as a skilled practice of perceiving the possibilities within the environment for a flourishing avian ecology.

#### **4. Involvements in collaborative building**

Just as the juvenile osprey's abortive attempts at building suggest a learning curve, so Dennis and others had to learn what it meant to nest as an osprey. Their 'becoming osprey' was a 'becoming in the flesh', as opposed to the 'literary becomings' that Deleuze and Guattari trace across the works of authors including Franz Kafka and Herman Melville.<sup>984</sup> This was a material and embodied involvement in the world of the osprey that required practice and work. Over this section and the following I explore the ways in which human nest builders had to learn how to see and build like an osprey. Latterly, as I describe in the next section, this has seen the cultivation of a 'cosmopolitical' sensibility that shifts attention away from a monolithic 'Osprey Nature' towards a pluralistic and 'multinatural' understanding of the birds.<sup>985</sup>

##### **Building nests with skill**

Ospreys are 'an easy species to build with' since the features in the environment to which they are drawn, once identified, make it relatively straightforward to narrow down potentially suitable sites.<sup>986</sup> They might be caricatured as 'lazy birds' owing to their eagerness to occupy existing sites, rather than build them from scratch.<sup>987</sup> However, the colonisation of a site reflects that it is both well placed and built. As Dennis remarks, the skill of picking a spot comes from practice: 'some of us just have a skill which is about looking at a landscape and knowing where the best place to put a nest is'.<sup>988</sup> Such knowledge comes with an attunement to osprey dwelling,

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<sup>984</sup> Brown L (2007) 'Becoming-Animal in the Flesh: Expanding the Ethical Reach of Deleuze and Guattari's Tenth Plateau' *PhaenEx* 2(2): 263.

<sup>985</sup> Lorimer J (2012) op cit.

<sup>986</sup> Field notes from a day in the field and an interview with Brian Etheridge, op cit.

<sup>987</sup> Pullar P (2001) op cit..

<sup>988</sup> Interview with Roy Dennis, op cit.



cultivated over a life of study and ‘knowing how ospreys live in the landscape’.<sup>989</sup> Such *gestalt* perception of birdlife involves both practice and a re-orientation of the perceiving self in the environment.<sup>990</sup> It certainly appears that, over the course of his nest-building life, Dennis has developed an ‘eye’ for a good site – a capacity acquired through honed practice, not unlike the nose of the perfumer or the fingers of the bag-weaver.<sup>991</sup> He has also developed more effective techniques for building. He remarks, with regard to learning and teaching nest craft in the field:

‘I think these sorts of things take a couple of years to get skilled at, and different people gain those skills in different ways. I’ve always said that it might take you two days to find the best place, and it takes you three hours to build the nest – but if you haven’t got time to look for the best place then you’re short circuiting [the process] and it may not work.’<sup>992</sup>

Finding a site and building a nest are different skills. Michelet’s historical appreciation of nests frames such structures as owing ‘everything to art, to skill, to calculation’. The nest is the bird’s ‘very person, his form and his immediate effort’.<sup>993</sup> Similarly for Charles Dixon, avid scholar of nests, each is a unique, skilled accomplishment beholden to their builder’s life history. A bird that builds a nest ‘without tuition, or some standard to work by’ will find it ‘a failure’.<sup>994</sup> Such accounts of nest building are akin to that developed in the work of Tim Ingold. In comparing the making of birds’ nests and string bags, he argues both comprise skilled work. Each involves the careful coordination of perception and action. Such abilities are ‘developed through an active exploration of the possibilities afforded by the environment, in the choice of materials and structural supports, and of bodily capacities of movement, posture, and prehension’.<sup>995</sup> Opposed to the idea that nests are some phenotypic expression, rendering ‘the skills of non-human animals [...] as properties of their genetically encoded, species-specific nature’, Ingold argues that any human or nonhumans denied the chance to practice a skill (like nesting), or suitable materials for building, will be unable to do so.<sup>996</sup>

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<sup>989</sup> Interview with Roy Dennis, op cit.

<sup>990</sup> See Ellis R (2011) op cit.; Lorimer J (2008) op cit.; Macdonald H (2002) op cit.

<sup>991</sup> Ingold T (2000) op cit.: 358; Latour B (2004a) op cit.: 207.

<sup>992</sup> Interview with Roy Dennis, op cit.

<sup>993</sup> Michelet J (1869) op cit.: 248-249.

<sup>994</sup> Dixon C (1902) op cit.: 20.

<sup>995</sup> Ingold T (2000) op cit.: 359.

<sup>996</sup> Ingold T (2000) op cit.: 358.

## Learning to see like an osprey

Seeing with confidence means becoming attentive to, and learning to be affected by, certain features in the environment, their relations to one another, and how they might be construed of in the ontologies of other beings.<sup>997</sup> As I have described above, there are common characteristics between osprey nest sites. Sensitivity to these features guides the choice of location. The environment of the re-colonising osprey in Scotland in the 1960s was empty of recognisable and maintained nest sites that might be settled or usurped. Of the trees encountered, few were 'nestable' to the bird's eye, lacking the features that resonate with the search image of acceptable sites. Without these material markers of confidence, the osprey environment is barren – a barrenness constituted relative to avian perception of the world.

Douglas Davies describes the tree as an evocative material object that affords humans (as metaphorical beings) a form generative of, and malleable within, multiple worldly cosmologies. For Davies, trees are both good to climb and think with, their wood provides 'fuel for metaphorical fires'.<sup>998</sup> Expanding this assertion onto the field of osprey ethology, we might deduce that to the eye of the raptor, certain trees are 'good to nest with'. Therefore, learning to build for ospreys involved learning to *see like an osprey*. This was an experimental, situated encounter with the world owing much to practice and a good base of ornithological knowledge. As one contemporary nest builder stresses: 'You've got to know your birds'.<sup>999</sup>

The human nest builder learns to look at the landscape simultaneously as osprey and 'more-than-osprey'. Their perception is indexed against knowledge of osprey ecology as they attempt to rework their gaze to landscape features.<sup>1000</sup> Yet humans diverge from the osprey in possessing different capacities for modifying their surroundings. They therefore perceive an *immanent or virtual* osprey nestability that might be actualised through the use of ropes, cable ties and hacksaws. These places

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<sup>997</sup> See the discussion of Hinchliffe S *et al* (2005) *op cit*.

<sup>998</sup> Davies D (1989) 'The evocative symbolism of trees' in Cosgrove D and Daniels S (eds) *The Iconography of Landscape* (Cambridge University Press; Cambridge): 34.

<sup>999</sup> Field notes from a day in the field and an interview with Ciril Ostroznvik, Dumfries and Galloway, 16 February 2014.

<sup>1000</sup> Bonta M (2010) *op cit*.

might be activated, plugged into the broader ecological assemblage of osprey life and associated spatiotemporal flows of genetic and cultural material.<sup>1001</sup>



**Figure 24: Photograph showing Brian Etheridge gesturing towards a potential osprey-nesting tree on the Black Isle, Inverness-shire, July 2014. Taken by the author.**

When assessing the character of potential nest trees the human nest builder must consider a wealth of factors beyond simply the ability to support a nest. Is it alive or dead? Does it have a single, pole-like trunk (as most conifers) or does the stem bifurcate into multiple upward growths? Does the tree have a broken, flattened crown or must a platform be built? In this latter instance the human is essentially doing the work of extreme weather events by opening up a niche-space for ospreys

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<sup>1001</sup> DeLanda M (2000) op cit.

in the manner of lighting storms or gale-force winds. Below the nest, branches might require trimming to prevent easy access by predators. Around the nest, appropriate perches are needed for the adults once the eyrie is crowded with young. Displaying many of these features, the tree in Figure 24 is ultimately unsuitable due to a proximate human dwelling out of shot. Similarly, nest placement is worked out with an eye to possible sources of disturbance, or the presence of other raptors, that might prevent ospreys from settling or cause them to lose confidence in the site.<sup>1002</sup>

Vinciane Despret describes this kind of ‘working with’ in her discussions of both scientific and domestic relationships with animals. Both contexts involve embodied, two-way involvements and transformations she terms ‘anthropo-zoo-genesis’. Each actor must learn to respond to and be affected by the other, be they lab rat or pet dog, if they are to cohabit smoothly and achieve tasks together.<sup>1003</sup> Discussing Konrad Lorenz’s work, Despret describes how he re-worked his own body in the process of ethological studies of the animal’s mind. For Lorenz, playing mother goose or attempting to teach a jackdaw to fly meant involving his body and ‘transforming it into [one] compatible with the role he was ascribed to’ to better comprehend ‘what matters in the animal’s world, i.e. what, from their point of view, bears meaning’.<sup>1004</sup> In the same way, to commune with and understand the osprey, the nest builder actively involves their body, learning to be affected by and *becoming* animal. They are tuned in to features of the environment that matter to ospreys to become open to the suggestions of animal presence and difference.<sup>1005</sup>

Drawing from Despret, I argue that the work of nest builders has been to transform themselves so that they might involve themselves in composing worlds for others. Becoming attuned to the conditions for osprey confidence allows them to navigate and affect that confidence. It is a willed, skilled entanglement that affects the lives of birds, their nesting ecology, and the lives of raptor conservationists. The practices of composition are liable to fail. Making associations between sites, humans and nonhumans remains fraught, provisional and contextual.<sup>1006</sup> Nest building comes to

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<sup>1002</sup> Field notes from a day in the field and an interview with Ciril Ostroznvik, op cit.

<sup>1003</sup> Despret V (2004) op cit.: 122.

<sup>1004</sup> Despret V (2013a) op cit.: 54.

<sup>1005</sup> Despret V (2013a) op cit.

<sup>1006</sup> Callon M (1984) op cit.

fruition less in concerns over what a nest says about raptor nesting ecology, and more through asking of a nest, 'what is well or badly constructed, well or badly composed'?<sup>1007</sup> The successes of nest building demonstrate the ability of certain humans to 'compose well', holding in regard the conditions required for ospreys to flourish. Haraway terms such a relationship 'response-able': acting back and responding to the calls of others in the action to enter dialogue with the animal.<sup>1008</sup>

### **Learning to build for an osprey**

Once a suitable site has been identified, a nest can be built. Building material for an osprey often consists of dead branches, snapped off by the bird using its weight and talons, for the macro structure; and mosses and grasses to line the nest cup.<sup>1009</sup> Local conditions affect the choice of materials with cow dung apparently a staple building material for historic eyries on Scotland's west coast.<sup>1010</sup> Abbott likewise records a diverse array of human detritus folded into eyrie structures, comprising a 'catalogue of heterogeneous oddities'.<sup>1011</sup> The birds then push material into position with their beaks and bodies as it is delivered during the season to reinforce the nest. Upon returning to a previously used nest, the first few weeks are usually marked by nest repair and reinforcement before eggs are laid.<sup>1012</sup>

Over the 1970s Dennis – assisted by osprey wardens on Speyside, and later through the appointment of additional staff at the Highland Office from 1978 – would develop methods for building nests in arboreal locations that adhered to a particular 'natural' aesthetic.<sup>1013</sup> These nests appear to affect more confidence among the re-colonising osprey population compared to the platform structures on driven poles utilised in America.<sup>1014</sup> A more obviously 'artificial' nest seemed not to fulfil the search image criteria of young ospreys, scouring the treetops from above, as Dennis soon realised following the failure of the cartwheel in 1961.<sup>1015</sup> By the early 1980s,

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<sup>1007</sup> Latour B (2010) op cit.: 475.

<sup>1008</sup> Haraway D (2008) op cit.: 88-89.

<sup>1009</sup> Green R (1976) op cit.

<sup>1010</sup> MacKenzie O (2012) *A Hundred Years in the Highlands*: 54.

<sup>1011</sup> Abbott C (1911) op cit.: 17.

<sup>1012</sup> Waterston G (1962) op cit.

<sup>1013</sup> See the foreword to Dennis R (January 1979) 'Osprey Newsletter No. 5' Including details of the 1976, 1977 and 1978 osprey breeding seasons in Scotland – SOC, 'Raptors', Box 19.

<sup>1014</sup> Poole A (1989) op cit.

<sup>1015</sup> See Dennis R (2008) op cit.: 141.

this approach had been honed and the osprey conservation literature prescribed a general method that has, in many ways, remained fairly consistent since. Figure 25 shows an excerpt from one such document, authored by Dennis on behalf of the RSPB in 1985. Such instructions, along with field training, were disseminated to staff at the Forestry Commission, espousing the benefits and possible gains to be made by building artificial platforms on their land.<sup>1016</sup>

The method involved two people: one at ground-level to gather materials; another in the canopy to saw off the crown and (re)fasten large branches into a triangular platform. Nest material was winched up and arranged into a nest structure. The platform and larger branches forming the base were tied together and affixed to the tree to anchor the base and form of the eyrie, ensuring greater stability and longevity. Human nest-builders have enduringly different preferences for the methods and materials of this fastening; some favour cable ties whilst others opt for coloured string or gardening wire. With a certain familiarity with another builder's style and the taste in binding material, and with a good eye, one can identify (or at least narrow down) the author of a particular nest platform from the signature of loose fastening material that trails underneath.<sup>1017</sup>

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<sup>1016</sup> Dennis R (October 1985) 'Contribution to Osprey Management in the British Isles', op cit.

<sup>1017</sup> Field notes from a day in the field and an interview with Brian Etheridge, op cit.

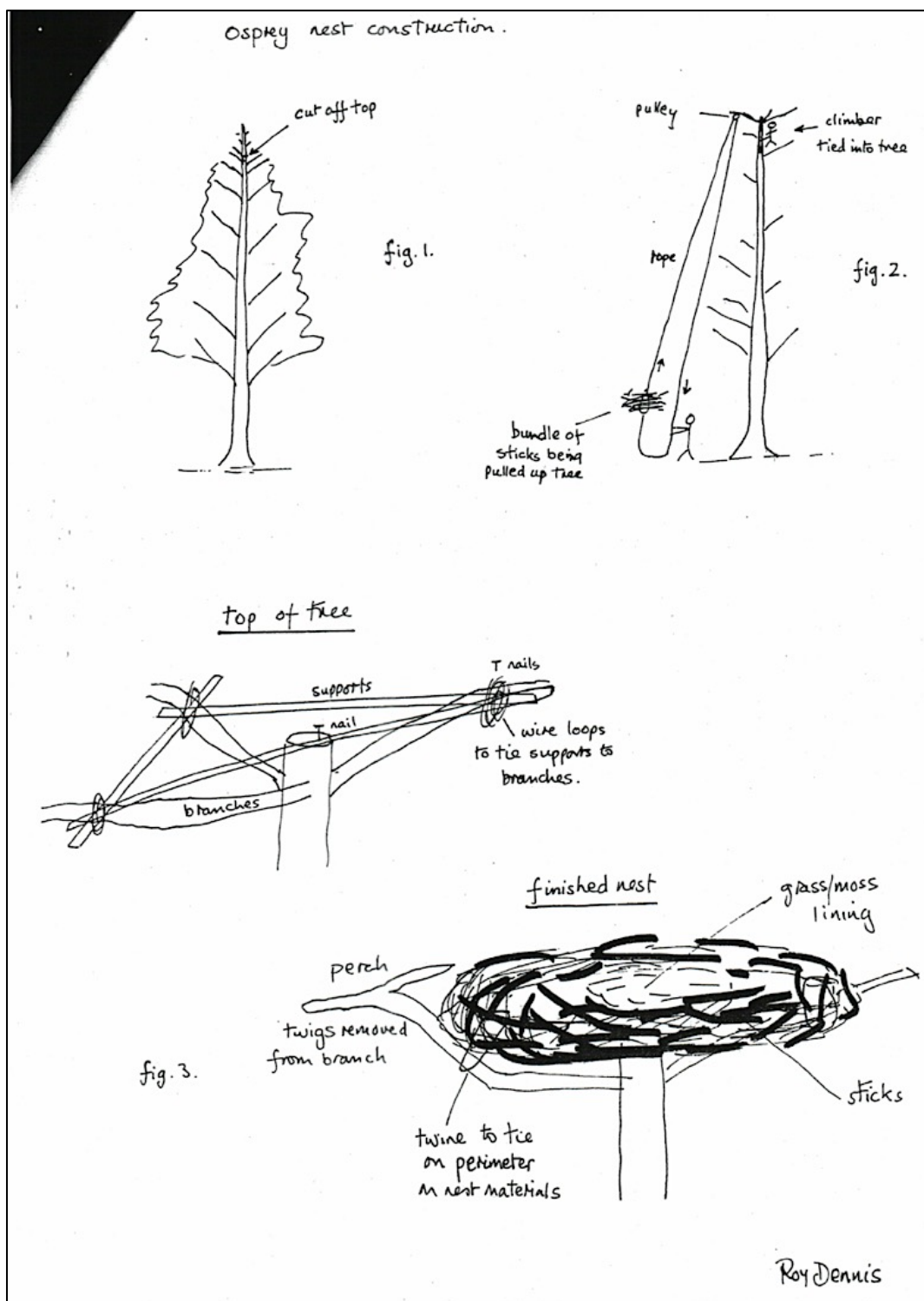


Figure 25: Instructions for building an osprey nest included in Dennis R (October 1985) 'Contribution to Osprey Management in the British Isles' Report prepared by the RSPB Highland office - accessed at RSPB Sandy, The Lodge library, 43-1985, NC12.12.2678 R1546. Reproduced with the permission of the RSPB.

Such instructions for constructing nests demonstrate the capacity of humans to learn to build successfully for ospreys. Simultaneously, they also evoke the aspects of nest-craft that continued to *exceed* human capacities for emulation. From afar, the business of constructing a large osprey eyrie might seem a simple business. Indeed, George Waterston describes the building practices of ospreys rather disparagingly. His observations from the Loch Garten logs depict a species ‘singularly ill-adapted for the job of moving large sticks into position on top of the eyrie’, apparently constructing with little design as materials ‘are dragged about and eventually deposited in what appears to be a somewhat purposeless manner’.<sup>1018</sup> An alternative perspective emerges when one considers the relative rarity of bird species possessing a specialised physiology for nest building.<sup>1019</sup> Rather, nests are the result of birds deploying their bodies in particular ways. The piling up of material in the constructing of an eyrie might appear random or without direction, but this ignores the precision and intricacy required for a structure held together solely by the forces of friction and compression. This is a bird that both weaves a structure about its own body and in response to what materials can be made to do in particular configurations in the world. The cable-tie and string fastenings used by human nest-builders underline the incompleteness of their knowledge when it comes to building nests that seek the appearance of having been avian-wrought.

Nest building, therefore, requires the coordination of a perception of the landscape with the practical construction of a nest. There is an attunement to the geographical ontology – as culturally situated and experientially wrought – of returning ospreys. As Latour notes, ‘it is impossible to compose without being firmly attentive to the task at hand’.<sup>1020</sup> Such attention is honed and *skilled*, requiring ‘a deep, personal and affectionate involvement [...] not just of mind or body, but of one’s entire body’.<sup>1021</sup> The real arbiter of successful nest construction – of the ability of humans to compose sites that enact an avian confidence in the landscape – remains the osprey itself. Returning to Scotland to nest, an osprey *choosing* a built site denotes the ultimate confirmation of a job well done.

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<sup>1018</sup> Waterston G (1962) op cit.: 129.

<sup>1019</sup> Hansell M (2002) op cit.

<sup>1020</sup> Latour B (2010) op cit.: 487.

<sup>1021</sup> Ingold T (2000) op cit.: 69.



## **An extensive building programme**

From the early 1970s through to the 1990s, Dennis and others pursued building extensively across the Highlands. As many sites as possible were erected in places felt to be suitable in the hope of attracting birds. By the late 1980s, at least 50 sites had been erected, according to the observations of more adventurous bird enthusiasts.<sup>1022</sup> Nests were built not necessarily where ospreys were known to be, but where it was thought they could be encouraged. Described as ‘haphazard’ by critics of the Society, the aim was to create as much osprey space as possible amidst environments held to be conducive to the species’ flourishing. This was world-building in a speculative and hopeful register, directed towards a future of imagined osprey abundance.<sup>1023</sup> Passing ospreys could activate these nests and thrive there.

Many of these sites were, however, never occupied. Sometimes previously inhabited nests, later restored following some event of damage, would never again be used.<sup>1024</sup> Reflecting on such practices going on within Speyside whilst he was in charge of the osprey centre at Loch Garten, Stewart Taylor recalls Dennis erecting a nest on Tulloch Moor in nearby Abernethy forest. However, despite apparent osprey interest in the area, it lay vacant. As Taylor muses:

‘You might put a lot up and only get one used, there’s something that says that’s a nest, and there’s something that they look at another tree and think, no that’s not for us. It’s funny, the birds are here and yet they aren’t in that area where he built his nest, and yet there’s tons of trees and the River Nethy and all these different bits within flying distance.’<sup>1025</sup>

As another contemporary nest builder notes, ‘you really have to go up there’ to judge the quality of the work done.<sup>1026</sup> Such sentiment reflects an awareness of the not-quite grasped, possibly unattainable aspects of an embodied osprey nest-craft and perception. Crucially, this is not an outlook that strives towards the objective ‘god trick’ of scientific discourse, extricating both knowledge and its producers from

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<sup>1022</sup> Pearson W (1987) op cit.: 36.

<sup>1023</sup> The tone struck in the recent work of Kirksey E (2015) *Emergent Ecologies*.

<sup>1024</sup> For example, the case of site 16, ‘rebuilt nest in winter in same tree’, described in See the foreword to Dennis R (31 December 1982) ‘Osprey Newsletter No. 9’ Including details of the 1982 osprey breeding season in Scotland – SOC, ‘Raptors’, Box 19: 2.

<sup>1025</sup> Interview with Stuart Taylor, op cit.

<sup>1026</sup> Field notes from a day in the field with Ciril Ostroznvik, op cit.

the grounded conditions of their creation.<sup>1027</sup> Instead, this is an acknowledgment that when it comes to building nests, it is the 'birds' eye view' that really does count. The osprey is the ultimate authority on the quality of a composition and human attempts to affect avian confidence. Within an extensive mode of human nest building, an acknowledgement of continued failure accompanied the hope that ospreys might see fit to use *some* sites even if they rejected others.

The osprey newsletters from the 1980s describe nests being rebuilt, and trace the early colonisation of human-built sites. In some cases it would take several years for a site to be occupied.<sup>1028</sup> Elsewhere, sites were repaired, sometimes with eggs being laid in as little as a day later.<sup>1029</sup> Dennis and his colleagues within the RSPB constructed many sites; a clandestine project involving a select, trusted few. Numbers grew, with additional personnel drawn from local Raptor study groups, as the osprey population increased and further monitoring was required. The extensive building project achieved noted successes. By end of the decade, around 30% of all Scottish ospreys were nesting on artificial platforms, 'most of them built in treetops by RSPB personnel.'<sup>1030</sup> More recent figures attest that in 2008, 37% of occupied nests in the Scottish Highlands had either been built from scratch or to some degree re-constructed by humans.<sup>1031</sup> Many of those now working with ospreys in the UK believe the primary limiting factor on their population numbers to be the availability of nest sites.<sup>1032</sup> I now turn, in the next section, to discuss contemporary shifts towards a 'cosmopolitical' nest building praxis, and the emerging strategies of contemporary conservationists involved in the nesting geographies of ospreys for both identifying sites and improving upon their compositions.

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<sup>1027</sup> Haraway D (1991) op cit.: 187-189.

<sup>1028</sup> For example, site 77 was artificially constructed in 1986 but not occupied until 1989, as described in Dennis R (February 1990) 'Ospreys in Scotland: Osprey Newsletter No. 16' – SOC, 'Raptors', Box 19: 7.

<sup>1029</sup> For example, site 4 was destroyed in winter storms between 1984 and 1985. After a pair were spotted at the site on 18<sup>th</sup> April, a new platform was constructed on the 19<sup>th</sup> and colonised on the 20<sup>th</sup>. Described in Dennis R (21 December 1984) 'Osprey Newsletter No. 11' – SOC, 'Raptors', Box 19: 1.

<sup>1030</sup> Poole A (1989) op cit.: 205.

<sup>1031</sup> Dennis R (2008) op cit.: 142.

<sup>1032</sup> Interview with Roy Dennis, op cit.; Field notes from a day in the field and an interview with Brian Etheridge, op cit.

## 5. Cosmopolitical compositions

I have described the emergence of nest building as a conservation endeavour seeking both to restore a past geography of niches and to propose a future of osprey abundance. In this section I want to characterise a further register of nest-building that I label 'cosmopolitical'.<sup>1033</sup> I expand upon this term by attending to the minor material tactics that seek to 'convince' ospreys to settle at constructed sites, as well as a different contemporary building method expressed by two nest-builders working in Scotland today. Within their mode of engagement I find an alternative, less certain approach to the site. Here the work of composing a geography in which ospreys can be confident demonstrates a desire to build in better ways, attendant to a plurality of osprey natures that invite speculation and experimentation.<sup>1034</sup> Rather than locate a site where a potential confidence might be actualised, these individuals are hailed into this involvement by the presence of birds in the landscape.

To provide some context: by the 1990s the number of individuals involved in osprey conservation had expanded, as had the number of known pairs and used nest sites. From 13 known pairs in 1972, there were, by 1993, 88 recorded pairs spread across 125 active or previously used nest sites. Osprey monitoring was coordinated between ten professional ornithologists across Scotland, in tandem with organisations including the Forestry Commission, Scottish Natural Heritage, and local raptor study groups. Regional osprey study groups had also coalesced in the North Scotland, Grampian, Tayside and Strathclyde regions. In addition, many reports of birds came by way of public sightings.<sup>1035</sup> In 1991, Dennis left the RSPB to pursue more proactive, experimental strategies of osprey conservation. He would become heavily involved in the use of translocation as a method for expanding and restoring osprey populations in the UK and abroad.<sup>1036</sup> Of particular notoriety has been his involvement in translocation, particularly through the Rutland Water

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<sup>1033</sup> From Stengers I (2005) op cit.

<sup>1034</sup> Hinchliffe S (2007) op cit.: 74; Latour B (2004b) op cit.

<sup>1035</sup> Dennis R (1993) 'Ospreys in Scotland: Osprey Newsletter No. 20', op cit.

<sup>1036</sup> Defined as 'the intentional release of animals to the wild in an attempt to establish, re-establish, or augment a population' in Griffith B, Scott J, Carpenter J and Reed C (1993) 'Translocation as a Species Conservation Tool: Status and Strategy' *Science [New Series]* **245**(4917): 477.

project in East Anglia.<sup>1037</sup> There, between 1996 and 2005, around 75 six-week-old chicks were taken from Scottish nests to the reservoir, cage-reared to the point of fledging, and then released. The species' capacity to imprint to their fledging area was relied upon to culture an association between imported chicks and areas where the species no longer bred. Migrating south, upon reaching breeding maturity many of these birds subsequently returned to Rutland (as well as some colonising areas of Wales) to establish new breeding populations, thriving in the years since the first chick fledged from a Rutland nest in 2001. Dennis still retains some involvement in nest building in Scotland, but others have now taken this practice forward. I explore these contemporary approaches in terms of their cosmopolitics and the practice of two nest-builders active today.

### **Osprey nesting and cosmopolitics**

Nests built speculatively often fail to attract ospreys. Equally abundant are stories where multiple platforms are erected and a bird's choice of site confounds expectations based on the assumed quality of the sites offered. George Monbiot describes such an occurrence in Wales in his book *Feral*.<sup>1038</sup> His friend, 'Ritchie', erected a platform within what he understood as prime osprey territory. Finding 'the tallest spruce tree on his side of the valley', Ritchie erected a natural looking nest, splattering it with white paint to mimic droppings in an attempt to 'persuade' the birds to settle. Meanwhile, a local wildlife trust constructed another, more artificial looking nest, nailing sheets of plywood atop an old telegraph pole beside a nearby railway line, where it was continually buffeted by passing trains. When a male osprey arrived, it defied expectations and chose the latter site:

"It was a no brainer," said Ritchie. "He could choose a nice little residence deep in the woods, in the top of a tree overlooking the estuary, or an exposed pole right next to the railway line. Of course the little sod chose the wildlife trust's effort. Not that I'm bitter or anything."<sup>1039</sup>

Richie's tale demonstrates how, in response to uncertainties over site preference and the limits of humans to 'become osprey' in their comprehension of site confidence, conservationists have embraced a more cosmopolitical approach within their craft.

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<sup>1037</sup> See the account of Mackrill T (2012) *The Rutland Water Ospreys*.

<sup>1038</sup> Monbiot G (2013) *Feral: Searching for Enchantment on the Frontiers of Rewilding*.

<sup>1039</sup> Monbiot G (2013) op cit.: 24.

They deploy both new tactics for construction and a more flexible, deferential outlook regarding osprey life.

I draw this term 'cosmopolitics' from the work of Science Studies scholars Isabelle Stengers and Bruno Latour. A cosmopolitical approach aims to 'shrug shoulders' at generalising claims; to 'slow down, that we don't consider ourselves authorised to believe we possess the meaning of what we know'. In doing so, we might 'slow down the construction of this common world', creating 'space for hesitation' in which to evaluate claims of 'good' knowledge.<sup>1040</sup> In such a mode there is an appreciation that the 'facts' about natures do not precede involvement within them.<sup>1041</sup> In the business of composing common worlds 'nothing is beyond dispute'.<sup>1042</sup> In articulating his *Politics of Nature*, Latour succinctly describes the cosmopolitical thus:

'A snail can block a dam; the Gulf Stream can turn up missing; a slag heap can become a biological preserve; an earthworm can transform the land in an Amazon region into concrete.'<sup>1043</sup>

Being cosmopolitical in ones approach to ospreys – accepting that one can 'never know what a being is capable of or can becoming capable of'<sup>1044</sup> – shifts questions from 'what do we know', to 'how can we live together', prompting a more care-filled 'attention to the details of the lives of others, to understand that those details matter, even if and especially when why they matter is an open question'.<sup>1045</sup> Thus, in a more 'multinatural' approach to nesting, the ospreys can 'object to the stories we tell about them'.<sup>1046</sup> Akin to the stories of expanding the language of osprey logging from the hide, cosmopolitics is about 'politeness': there is a need to remain attentive the other, their responses, needs and wants; and to avoid assumptions that questions of nature are settled, or that humans know best.<sup>1047</sup> Sometimes this politeness can take the form of ceding that certain ways of being or perceiving the landscape cannot be known and must be left to the ospreys.

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<sup>1040</sup> Stengers I (2005) op cit.: 994-995; Latour B (2004b) op cit.: 3.

<sup>1041</sup> Hinchliffe S (2008) op cit.: 89.

<sup>1042</sup> Latour B (2010) op cit.: 478.

<sup>1043</sup> Latour B (2004b) op cit.: 25.

<sup>1044</sup> Stengers I (2005) op cit.: 997.

<sup>1045</sup> Hinchliffe S (2008) op cit.: 95.

<sup>1046</sup> Hinchliffe S *et al* (2005) op cit.: 655.

<sup>1047</sup> Haraway D (2008) op cit.: 41.

A nest building cosmopolitics emerges with the development of numerous material tactics that Dennis and others came to develop to increase the likelihood of ospreys using their nests. One of these (noted above) involved splattering platforms with white emulsion, simulating the excreta of previous inhabitants. Such traces mimic past site successes, adding 'extra assurance that this is the place to nest' whilst also making eyries more visible from the air.<sup>1048</sup> Another strategy, developed by Dennis in the 1990s whilst working on the translocation to Rutland water, has been the positioning of polystyrene decoy 'ospreys' at newly built nests. A watch is set to remove the decoys over night once a nest-less bird has been seen in the vicinity, to simulate the occupation and subsequent desertion of a site. For the passing bird, it is hoped that this performance will pique avian interest in the nest, giving the assurance that it is a viable structure. As a technique, decoys have been more successful abroad, such as in Corsica.<sup>1049</sup> In the UK, Dennis has found they were often attacked and damaged by crows. Such differing experiences are a potent reminder that the geographies into which ospreys are being encouraged to insert themselves also vary immensely, and that nest building must negotiate the specifics of local ecologies. These tactics are small ways of trying to accommodate for uncertainties around osprey natures.

But such tactics also gesture to the fact that as skilled as a nest-builder might become at perceiving the osprey-Umwelt, and as well crafted as a platform might be, there remain unknown reasons why sites don't work. There is an enduring gap between the ontologies of the bird and the human. The affects of confidence are so vitally 'other' that that perhaps no amount of cultivated and skilled creaturely-ness can overcome this difference. A cosmopolitical approach to nest building is therefore also about responding to, and acknowledging, the gap that remains when one 'becomes animal'. Animal 'beastliness' might still express itself as profound nonhuman difference.<sup>1050</sup> I now turn to explore an alternative, cosmopolitical method of site selection as pursued by two contemporary nest-builders in Scotland.

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<sup>1048</sup> Dennis R (2008) op cit.: 145; Pullar P (2001) op cit.: 26.

<sup>1049</sup> Mackrill T (2012) op cit.: 36.

<sup>1050</sup> Johnston C (2008) op cit.

## Contemporary nest-building in Scotland

Brian Etheridge and Ciril Ostroznvik work predominantly in the north and south west of Scotland respectively. Etheridge was enrolled into the practice in the mid-1970s whilst based at RAF Kinloss. Through the local bird-watching community he was soon known to Dennis as a capable ornithologist, forming part of the RSPB's local contact network and helping with early repairs to osprey nests. Returning from a posting abroad, he obtained contract work with the Society through the 1980s, primarily monitoring hen harriers (*Circus cyaneus*) and red kites (*Milvus milvus*) whilst also contributing reports of any ospreys he encountered.<sup>1051</sup> After Dennis left the RSPB, Etheridge began monitoring ospreys alongside his other duties. Meanwhile, Ostroznvik worked for many years as a forester in Dumfries and Galloway; his appreciation of raptor ornithology was honed whilst working on conifer plantations. Via his local ringing and raptor study groups, he became aware of the attempts by ospreys to nest in his native Dumfriesshire during the early 2000s. His forestry skills were soon employed to secure an early nest site constructed by these birds.<sup>1052</sup> Later, after he had contacted Etheridge at the RSPB's Highland Office, the two men met for a weekend of ringing osprey chicks in Inverness-shire in the summer of 2005. Etheridge imparted suggestions for building platforms and showed Ostroznvik several sites he had constructed. The forester returned to Dumfriesshire, since constructing numerous nests and almost single-handedly fostering the region's osprey population of around 15 pairs.<sup>1053</sup>

Both men's nest-building involvements demonstrate a shift in practice away from attempts to attune to a settled 'osprey nature' and towards a more open-ended and cosmopolitical encounter. Rather than build speculatively within habitats seen as compatible with their ecology, nests are built where the birds demonstrate an active interest. This is an important distinction, comprising 'a measured devolution of authority' to the geographical inclinations of animals themselves.<sup>1054</sup> Attention is paid to local sightings, survey reports, and the appearance of the species' territorial

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<sup>1051</sup> Etheridge's name begins to appear on the osprey newsletters from the reporting of the 1988 season onwards: see Dennis R (March 1989) 'Ospreys in Scotland: Osprey Newsletter No. 15' - SOC, 'Raptors', Box 19.

<sup>1052</sup> Kirk K (2013) 'The Nest Builder' *Dumfries and Galloway Life* 67(June 2013): 48-51.

<sup>1053</sup> Ciril Ostroznvik, May 2016 - pers. comm.

<sup>1054</sup> Lorimer H (2006) op cit.: 498.

‘refrain’. Following Deleuze and Guattari, territorial refrains are the movements and rhythms that constitute a territorialising of space – the child that sings to comfort itself, the bird that displays brightly coloured plumage in a way that alerts rivals to its ownership of space. For the osprey, an aerial ‘sky dance’ characterises this bird’s ‘territorial motif’.<sup>1055</sup> The male rises with a fish, calling and circling before descending into a majestic dive, signifying the attachment to a nest, alongside a desire and intention to claim it.<sup>1056</sup>

Such displays were a more common feature of mid-twentieth century accounts of osprey behaviour.<sup>1057</sup> Today, birds often return to established sites within already delineated territories – their spatial refrain is that of a migratory return. There is less need to lay a ‘claim’. Yet osprey conservationists remain sensitive to these performances of avian interest in the environment, read both as a sign of presence and a location’s capacity to evoke confidence.<sup>1058</sup> With a report of birds nearby, Etheridge and Ostroznvik investigate for signs of attempted nesting. Within the recent re-colonisation of Dumfriesshire, Ostroznvik observed ospreys lacking nest-building experience either beginning construction in awkward trees or failing to create enough of a platform to breed in their first year. Within the immediate vicinity, he would look for particularly prominent trees that might support a nest. With climbing spikes and ropes, both men easily ascend to the canopy to craft a nest structure from sawn branches, collected wood, grass and moss. Ostroznvik always builds his nests as high as possible to make them inaccessible to predators.<sup>1059</sup>

Such an approach to nest building is remarkably avicentric; it represents a ceding of geographical authority to the non-human. Success rests upon ‘giving up stories about calculability or control’ in order to follow possible lines of enchantment between bird and landscape wherever they lead.<sup>1060</sup> There is a renewal of the curiosity that first summoned humans to ‘become osprey’, with the presence of

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<sup>1055</sup> Deleuze G and Guattari F (2013) op cit.: 369.

<sup>1056</sup> ‘Operation Osprey: Roy Richards at Loch Garten’ (1960) Audio tape, op cit.

<sup>1057</sup> See Waterston G (1962) op cit.

<sup>1058</sup> Gilbert G, Gibbons D and Evans J (2011) *Bird Monitoring Methods: a manual of techniques for key UK species*: 158; Hardey J *et al* (2009) op cit.

<sup>1059</sup> Fieldnotes from a day in the field with Ciril Ostroznvik, op cit.

<sup>1060</sup> Buck H (2015) ‘On the Possibilities of a Charming Anthropocene’ *Annals of the Association of American Geographers* **105**(2): 376.



birds hailing humans into building nests. According to Ostrozkiv, the method is very successful because ‘*the birds want to be there*’.<sup>1061</sup> Those variables affecting site confidence that elude human comprehension are accommodated for by virtue of enabling the bird to articulate its ‘opinion’ as to where the nest should go.<sup>1062</sup> This approach to nest building is best expressed in terms of an environmental cosmopolitics. The ospreys in these accounts are granted agency in their labours of place-making. They are able to contest those claims about osprey nature that prove unreliable.<sup>1063</sup> Knowledge of avian biology might still direct the builders’ gaze, but it features as part of a broader toolkit for engagement rather than a primary narrative foreclosing on the possibility of surprise. Osprey life is allowed to be immanent and expressive of its virtual possibility. Once it is clear that a site affects confidence for the bird, a decision over the nest’s exact placing can be divined with attention to a surroundings’ immediate material features or the presence of other birds, humans and their own territorial claims.

The encounters between nest-builders and ospreys avoid the ‘scientistic exclusion of anecdote’ that can see biological narratives ‘incapable of perceiving the anomalous, unusual and singular animal capacities’ and the more lively beings they testify to.<sup>1064</sup> With the osprey, the question becomes how to let the bird speak, rather than optimistically erecting sites on a faith placed in the science of its ecology. There is a concern not just to make more osprey ‘babies’, but to appreciate the birds as ‘kin’ that live in and experience the environment.<sup>1065</sup> A cosmopolitical approach to nest building makes room for an osprey spatial sensibility amidst the narrative of niche restoration. In this vein, Ostrozkiv has actively turned down requests to build nests in certain places – and has covertly erected them in others – against human wishes. He puts more stock in the site preferences of birds themselves landowners or even other conservationists. As Despret argues, if one is to learn anything about what is significant to the animal – what constitutes the animal’s *Umwelt* – then one

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<sup>1061</sup> Fieldnotes from a day in the field with Ciril Ostrozkiv, op cit. [my emphasis]

<sup>1062</sup> c.f. Despret V (2005) op cit.

<sup>1063</sup> Hinchliffe S *et al* (2005) op cit.: 655.

<sup>1064</sup> Lestel D *et al* (2014) op cit.: 128.

<sup>1065</sup> Haraway D (2015) ‘Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin’ *Environmental Humanities* 6: 159-165.

must also ask how the animal might better express itself, and how this ability is stymied by the frameworks at hand:

‘This is a question of becoming: of that of which the animal is rendered capable by the apparatuses that interrogate it, the narratives that guide these apparatuses, by the hours of work spent observing them.’<sup>1066</sup>

In the final section I explore two examples – nest maintenance and the incidence of pylon nesting – to discuss the on-going ethical obligations that arise out of human nest building involvements. As the question becomes increasingly less about how to produce more ospreys, now that there are over 300 pairs in the UK, I suggest that we should look at how to ‘stay with the trouble’ that accompanies (re)creating space for wild life.<sup>1067</sup>

## **6. Care, repair and future forms of life**

Before concluding this chapter, I want to use two examples – the business of nest maintenance and the emergent phenomenon of pylon nesting – to try to explore some of the ethical entanglements that arise as a result of humans involving themselves in osprey nest building to secure a future of osprey abundance in the landscape. I want to argue that nest-building involvements embroil humans into the future of the osprey in Scotland to engender a much longer-term ethical obligation to this community. I follow Haraway, Claire Palmer, and Sarah Whatmore in understanding human-nonhuman ethics as *relational*.<sup>1068</sup> That is to say, ethical obligations arise within and through

‘situated histories, situated naturecultures, in which all the actors become who they are *in the dance of relating*, not from scratch, not ex nihilo, but full of the patterns of their sometimes-joined, sometimes-separate heritages both before and lateral to *this* encounter.’<sup>1069</sup>

I draw on the work of Palmer to argue that actively involving ourselves in the lives of ospreys with potentially transformative effects generates on-going responsibility to pay attention, and occasionally steward, those lives. Her relational approach to

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<sup>1066</sup> Despret V (2008) op cit.: 127.

<sup>1067</sup> Haraway D (2010) op cit..

<sup>1068</sup> Specifically see Haraway D (2004) op cit.; (2008) op cit.; Palmer C (2010) op cit.; and Whatmore S (1997) “Dissecting the autonomous self: hybrid cartographies for a relational ethics” *Environment and Planning D: Society & Space* **15**(1): 37-53; (2002) op cit.

<sup>1069</sup> Haraway D (2008) op cit.: 25.

animal ethics situates moral obligation within the specificity of relationships forged and the contact between beings and communities.<sup>1070</sup> This deontologist framework argues that we have more ethical responsibility for beings whose lives we have substantially affected than we do over 'fully wild' animals.<sup>1071</sup> Such an ethic of the wild begins from a *laissez faire intuition*: a respect for the 'sovereignty' of wild creatures delimiting disturbance *and* intervention.<sup>1072</sup> Therefore, for Palmer:

'When humans deliberately create morally considerable, sentient animals who have no other ways of fulfilling their needs and are constitutively profoundly dependent on and permanently vulnerable to humans, then humans create special obligations toward those animals. Likewise, where humans close down animals' options by external constraints on their environments, preventing them fulfilling some or all of their needs in other ways – then by making animals' potential vulnerability actual, humans create special obligations to assist them.'<sup>1073</sup>

In this vein, I also follow Sarah Whatmore's deconstruction of an ethics based in the figure of the 'autonomous human'. As environmental ethics looks to 'expand the beings that count' we must also recognise that we – all – beings are composite entities.<sup>1074</sup> Our acting, perceiving, and living at a most basic level is conditioned by 'a multitude of affective actants-in-relation [which] take and hold their shape performatively, as precarious achievements whose durability and reach is spun between the potencies and frailties of more than human kinds'.<sup>1075</sup> Thus, we are a part of osprey life, and these attachments – and those they attach us to – matter ethically. I turn to the examples of maintenance and pylon nesting to explore nest-building's 'mundane troubles'.<sup>1076</sup> I advocate nest building as a narrative through which to recognise the ethical responsibility inherent to the involved and on-gong historical geographies affecting the environmental conditions of creatures 'right across the wild-domestic continuum'.<sup>1077</sup>

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<sup>1070</sup> Haraway D (2008) op cit.: 205.

<sup>1071</sup> Palmer C (2010) op cit.

<sup>1072</sup> See for example the IR-refracted discussion of 'wild animal sovereignty' by Donaldson S and Kymlika W (2011) *Zoopolis: A Political Theory of Animal Rights*: 156-209.

<sup>1073</sup> Palmer C (2010) op cit.: 93.

<sup>1074</sup> Whatmore S (2002) op cit.: 155.

<sup>1075</sup> Whatmore S (2002) op cit.: 161.

<sup>1076</sup> Haraway D (2010) op cit.: 53.

<sup>1077</sup> Lorimer J (2010c) 'Ladies and gentlemen, behold the enemy!' *Environment and Planning D: Society & Space* 28(1): 42.

## **Maintenance and the call for continued involvement**

The maintenance and care of nests is one means by which nest-builders stay with the trouble of their work. Nest building in Scotland finds its origins in a restorative mode of engagement, rebuilding the nests battered by storms. Likewise, Dennis' osprey newsletters trace the work done to repair both osprey- and human-built platforms. But, maintenance work is invited in another sense too: living trees are favoured for their longevity and structural strength by many humans constructing osprey nests. Keeping these spaces open and habitable for the birds requires annual visits for pruning and maintenance. As with any collaboratively gardened nature, neglect for the lively agencies of vegetation produces undesired growths that soon close off space for more desired forms of life.<sup>1078</sup> Any returning or nest-less bird looking to settle an overgrown site lacks the physiological means to keep green wood in check. For contemporary nest builders Etheridge and Ostroznvik, minor maintenance is a simple undertaking during the season, carried out in tandem with site checks and ringing visits. When substantial intervention is needed, visits after the worst of the winter storms are conducted prior to osprey returns from migration, avoiding the risk of disturbance.<sup>1079</sup>

In instances where maintenance is neglected a site can become quickly closed. Given the secrecy surrounding early nest building in the Highlands (an issue that also prevents, a more substantial discussion of its history) those who have since become involved in the practice occasionally unearth the remains of platforms built years previously but no longer maintained. Perhaps their original builders are no longer involved in the practice. Miscommunication, and or a failure to continue to attend to a site, sees nests inadvertently abandoned. In one example from Ostroznvik, a nest he had helped to construct lay a small distance over the regional boundary between Dumfriesshire and Ayrshire. Trusting its maintenance to those within whose regional bird-monitoring purview the site fell, he later returned to discover it overgrown and abandoned. Here an osprey's situation, 'flourishing in the seams'

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<sup>1078</sup> See Ginn F (2016) op cit.; Hitchings R (2003) op cit.

<sup>1079</sup> Field notes from a day in the field and an interview with Brian Etheridge, op cit.; Fieldnotes from a day in the field with Ciril Ostroznvik, op cit.

between administrative boundaries, had seen it deprived of the attention the site required to keep it open.<sup>1080</sup>

In some cases, 'dead' nests can be revived, the connections to the migratory returns of their inhabitants restored to make a site 'live' again.<sup>1081</sup> In one example, a nest on the Black Isle (Figure 26), Inverness-shire, was built, abandoned, and later rediscovered by Etheridge during his monitoring work for the RSPB in 2007. He himself had been involved in building that nest in the 1990s with a former associate of Dennis' in the RSPB. Returning to the area upon investigating reports of a male osprey showing territorial interest, he rediscovered the site, now enclosed with a decade of growth. Returning in winter to cut away the excess vegetation, the summer that followed saw a pair of ospreys colonise the nest and raise chicks, subsequently returning each year.<sup>1082</sup>

The example of maintenance emphasises the on-going dependence of osprey life as a 'precarious achievement', reliant upon the continued attention of human nest builders.<sup>1083</sup> I argue that by building nests in live trees, humans generate forms of osprey life that actively rely on continued human involvement in order that they are able to flourish there. To invite ospreys to participate in such a field of relations, and again become a part of the 'storying' of places from which they were previously absent, is to enter into relation with, and thus obligation to, those beings.<sup>1084</sup> Maintenance offers a mundane, material and consequential means of staying with the ethical baggage that comes with fostering new lives in new places.

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<sup>1080</sup> Tsing A (2012) op cit.: 151.

<sup>1081</sup> Ingold T (2007) op cit.

<sup>1082</sup> Field notes from a day in the field and an interview with Brian Etheridge, op cit.

<sup>1083</sup> Whatmore S (2002) op cit.: 161.

<sup>1084</sup> Ingold T (2010) op cit.: 141.



Figure 26: Photograph showing an artificial osprey nest on the Black Isle constructed in the 1990s and re-activated by Brian Etheridge in 2007, July 2014. Taken by the author.

### **Pylon nests and troubling futures**

Maintenance requires staying alert to the needs of ospreys at human-built sites year on year. But human involvement in nest sites has possible impacts extending beyond such returns, affecting possible future forms of osprey difference. Evidence shows that a shift towards greater use of artificial structures has increased reproductive success on account of the fact that human-built nests are often more stable and secured from predators.<sup>1085</sup> Beyond this effect, however, I also want to consider the question of the kind of obligations that arise in the fostering of new forms of more 'open' and potentially vulnerable life. Specifically, the example of

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<sup>1085</sup> Ewins P (1996) 'The Use of Artificial Nest Sites by an Increasing Population of Ospreys in the Canadian Great Lakes Basin' in Bird D, Varland D and Negro J (eds) *Raptors in Human Landscapes: Adaptions to Built and Cultivated Environments* (Academic Press; London): 109-123.

osprey pylon nesting demonstrates the involved futures made possible as a result of nest-construction and its implications for the species' expression of philopatry (Figure 27).

A discussion of pylon nesting recalls the discussion of Lorenz's studies of imprinting and the influence of these kinds of intergenerational forces on the geographical sensibilities of young ospreys. Herein lies the genesis of pylon nesting. As I have described, confidence in a nest site is affected by the species' capacity to 'imprint to area' in two ways. Firstly, ospreys are attracted back to the region from which they fledged when looking to colonise or construct a nest and find a mate. Secondly, particular site preferences appear to correlate with the site conditions from which young ospreys fledge.<sup>1086</sup> Therefore, as nest building has become a recognised part of the pro-active conservationist's repertoire, so too over time have the numbers (and breeding successes) of ospreys using these structures risen. It appears that ospreys' confidence in these sites is affected in part by the mechanisms of imprinting. The chicks that fledge from platform structures are themselves more likely to return and nest on such structures in maturity. One study from Oregon notes changes in the nesting preferences of an osprey population as numbers rose along the Willamette River. Whilst the number of tree nesting birds stayed almost the same (12-13 pairs) between 1976/77 and 1993, the number of birds nesting on human infrastructure increased from one pair to 66.<sup>1087</sup> Similarly, in Germany the vast majority of ospreys (75% in the mid 1990s) now nest in 'artificial "nest trees."' <sup>1088</sup>

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<sup>1086</sup> From Newton I (1979) op cit.

<sup>1087</sup> Henny C and Kaiser J (1996) op cit.

<sup>1088</sup> Meyburg B-U, Manowsky O and Meyburg C (1996) 'The Osprey in Germany: Its Adaption to Environments Altered by Man' in Bird D, Varland D and Negro J (eds) *Raptors in Human Landscapes: Adaptions to Built and Cultivated Environments* (Academic Press; London): 127.



**Figure 27:** Photograph showing an osprey nest constructed on a purpose built nesting-tray atop an electricity pylon in Perthshire, taken by Stewart Taylor. Image from Thaxton R (24 July 2014) 'The future: Perhaps coming to a pylon near you.....?' Posted on the Loch Garten Osprey Diary Blog, RSPB community webpages [Accessed on 20/1/15 at <http://www.rspb.org.uk/community/placestovisit/lochgartenospreys/b/lochgartenospreys/archive/2014/07/24/the-future-perhaps-coming-to-a-pylon-near-you.aspx>].

As humans have involved themselves in osprey nesting ecologies, so the osprey has come to regard new sites as 'nestable'. Nesting involvements have therefore de-territorialised the strictly arboreal tendencies of a migrant Scandinavian population to produce a new expression of osprey life in Scotland. Similarly, research also shows that young ospreys experiencing low levels of disturbance at the nest will exhibit a greater tolerance for human presence when nesting in adulthood, and can colonise sites closer to human dwellings.<sup>1089</sup> The birds in the UK have 'become more

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<sup>1089</sup> See the discussion of Poole A (1981) 'The Effects of Human Disturbance on Osprey's Reproductive Success' *Colonial Waterbirds* 4(1981): 20-27.



used to people and less easy to disturb'. Along with their expanded site recognition, Dennis has argued that such a 'cultural shift' sees 'our ospreys [...] becoming more like those on the other side of the Atlantic Ocean.'<sup>1090</sup>

The re-colonisation of the osprey has been historically associated overwhelmingly with the Scots pine. Scottish birds remain predominantly tree nesters.<sup>1091</sup> However, this 'cultural shift' in turn leads to the flourishing of new articulations of osprey life – like pylon nesting. Writing on the reserve blog in 2014, former Loch Garten reserve manager Richard Thaxton muses: 'Does pylon-nesting breed pylon-nesting?'<sup>1092</sup> He speculates that the young birds fledging the pylon nest in Figure 27 might depart imbued with a pylon-refracted 'search image' to guide their own search for confidence in the landscape. The pylon-nesting osprey prompts questions about how a future Scottish osprey community might look, and how humans might accommodate this new form of osprey geographical perception amidst their activities.<sup>1093</sup> One strategy has seen Dennis, in collaboration with Scottish Southern Electrical, erect special wire baskets atop pylons to enable nesting there, preventing a mass of large, unwieldy eyrie structures that can interfere with maintenance to the power-grid. As of 2014, around 7 pairs were recorded nesting on such structures in Perthshire.<sup>1094</sup>

Following Thom Van Dooren, however, we might examine, through pylon nesting, the asymmetries inherent to human involvements in imprinting processes. Pylon-nesting birds are site-malleable and tolerant of humans, and this brings particular vulnerabilities. For example, in Wales, osprey volunteers have launched 'Operation Jimmy' to campaign for changes in pylon design following the electrocution of Glasslyn male CU2 ('Jimmy') in May 2015.<sup>1095</sup> As van Dooren reminds us, the

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<sup>1090</sup> Dennis R (2008) op cit.: 130.

<sup>1091</sup> Dennis R (2008) op cit.

<sup>1092</sup> Thaxton R (24 July 2014) 'The future: Perhaps coming to a pylon near you.....?' Posted on the Loch Garten Osprey Diary Blog, The RSPB Community Webages [Accessed on 20 January 2015 at <http://www.rspb.org.uk/community/placestovisit/lochgartenospreys/b/lochgartenospreys/archive/2014/07/24/the-future-perhaps-coming-to-a-pylon-near-you.aspx>]

<sup>1093</sup> Haraway D (2008) op cit.: 4.

<sup>1094</sup> Thaxton R (2014) – pers. comm.

<sup>1095</sup> See details on the 'Operation Jimmy' website [Accessed 6 July 2016 at <http://www.operationjimmy.uk>]

processes of imprinting, habituation, and domestication – in contrast to Despret’s more positive claims – often affect awkward, captive forms of life, with social existences potentially, even coercively, rendered eternally liminal. Humans, meanwhile, undergo far less of a lasting transformation.<sup>1096</sup>

Just as with the need to keep spaces open via maintenance and attention, so too might staying with the trouble of generating new forms of osprey life find a mundane, yet still consequential, material expression. Affixing wire baskets and redesigning pylons present two such examples. I take particular inspiration from the cosmopolitical encounters between humans and urban wild things, figured in geography and elsewhere. Here there is recognition of the emergence of both new, recombinant habitats and the ability of nonhumans to learn to dwell differently, becoming part of the convivial re-storying of urban space.<sup>1097</sup> Such an appreciation sits within a broader understanding of life as heterogeneous, pervasive, and ever emergent between the seams and cracks.

Moreover, whilst animals can potentially enter urban habitats to find new food sources or due to the differences in climate, equally might they also do so because they actively prefer – or ‘enjoy’ – the possibilities for flourishing that a city affords?<sup>1098</sup> How might electricity pylons figure in the osprey’s affective ecology? Nest building is an open-ended and experimental conservation project, without an easily identified ‘end point’ that requires a more democratic conversation about the kinds of worlds being built between species. Taking inspiration from discussions of urban wild things therefore also means not foreclosing on the emergence of new forms and their accommodation within in the environment as humans and animals make each other possible of new ways of dwelling.<sup>1099</sup>

## **7. Conclusion**

This chapter has sought to explore the history of human-osprey nest building involvements as a means of introducing the nest as a site for theoretical and

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<sup>1096</sup> van Dooren T (2014) op cit.: 103.

<sup>1097</sup> van Dooren T and Rose D-B (2012) op cit.

<sup>1098</sup> Hinchliffe S and Whatmore S (2006) op cit.: 127; Thompson M (2007) ‘Placing the Wild in the City: “Thinking with” Melbourne’s Bats’ *Society and Animals* 15(1): 79-95.

<sup>1099</sup> Lestel D (2002) op cit.: 56.

analytical attention. In line with calls to pay more attention to animals' geographies; I have developed a conceptual framework of nesting through Bachelard's concept of confidence.<sup>1100</sup> I have illustrated how attention to the material, embodied and affective dynamics of nonhuman place-making can broaden understanding of human involvements in those practices, and raise ethical questions about the natures and futures opened up by such involvements.

Nest building practice emerges out of a curiosity for osprey geographies as lived and temporal. Reworking ones perceptive self to accommodate a more avian sensibility of landscape – humans have attempted to learn the skills of seeing and building like a bird. This is an imperfect work of composition, involving an appreciation for how worlds are well or badly made and which is concerned with accommodation, improvisation, experimentation and the ceding of control.<sup>1101</sup> As I have shown, contemporary nest builders are hailed into building by the presence of birds. A cosmopolitical approach to osprey nature that involves ceding authority on matters of knowing the birds' environment to the birds themselves. In allowing the osprey to articulate its preference, nest building practice has proved highly effective. I have concluded this discussion with attention to the on-going involvements that nest building enrolls humans into. Birds take on new forms of life and we are obligated to consider what forms these might be, as well as to continue to pay attention to the sites and spaces we have opened up for their re-colonisation.

An approach that takes seriously the geographical lives of animals and their presence as lively beings problematises any notions of the 'autonomy of the more-than-human world' or an 'autonomous wild' that appear prevalent in contemporary discussions and praxis of rewilding.<sup>1102</sup> Since the 1970s, and continuing through the conservation projects of today, the osprey has been cast as the vanguard of a broader 'rewilding of the skies', prefiguring the return of other raptor species to

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<sup>1100</sup> Specifically see Buller H (2014) op cit.; (2015) op cit.; Hodgetts T and Lorimer J (2014) op cit.; Lorimer J (2015) op cit.

<sup>1101</sup> Buck H (2015) op cit.: 376.

<sup>1102</sup> Woods M (2005) 'Ecological restoration and the renewal of wildness and freedom' in Heyd T (ed) *Recognizing the Autonomy of Nature: Theory and Practice* (Columbia University Press; New York): 176-177.

Scotland, such as the red kite and white-tailed eagle.<sup>1103</sup> Nest building appears to contrast to a re-wilding ethic that strives towards the restoration of an autonomous wild that 'finds its own way'.<sup>1104</sup> Instead, nest building demands a longer term conservation ethic of politeness, both future-oriented and expansively democratic in considering who comes to be enrolled into what kinds of collectives; what forms of life can or might be fostered; who decides, and how to live with uncertainty.

Jamie Lorimer echoes this position in his own recent reflections with regards to the emergent forms of life brought about through present-day conservation initiatives seeking to assuage broad-scale environmental degradation. He argues:

'We (and it is a narrow we) bear some responsibility for the violence of these extinctions, the losses of forms and possibilities for difference. We bear responsibility for those we save and the conditions under which their salvation is achieved and perpetuated – especially under conditions of captivity.'<sup>1105</sup>

Rather than a separable, 're-wilded' population, the osprey demonstrates that restorative conservation entails long-term involvement. Nature can only ever be seen to be 'able to look after itself' if one severs the associations through which cross-species biosecurity, concerns for welfare, and aesthetic appreciation flow.<sup>1106</sup>

To recognise the significance of place for ospreys, and to become involved in the composition of such places, means remaining comsopolitically open to the uncertainties of bird life, and how we might learn about and with ospreys. A willingness to stay with the lingering ethical questions, the entanglements, and the possible futures is mandated through nest building and, humans and ospreys 'must cohabit well without a final peace'.<sup>1107</sup> The future of osprey life in Britain, and in many other places, has been wrought in a crucible of historic and on-going human

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<sup>1103</sup> To use the phrase of Lambert R (2011) op cit.; see the work of Evans I, Dennis R, Orr-Ewing D, Kjellén N, Andersson P, Sylvén M, Senosiain A and Carbo F (1997) 'The re-establishment of Red Kite breeding populations in Scotland and England' *British Birds* **90**: 123-138; Love J (1983) *The Return of the Sea Eagle*.

<sup>1104</sup> Monbiot G (2013) op cit.: 9; see also Brown C, McMorran R and Price M (2011) 'Rewilding: A New Paradigm for Nature Conservation in Scotland?' *Scottish Geographical Journal* **127**(4): 288-314; Soule M and Noss R (1998) 'Rewilding and biodiversity as complementary tools for continental conservation.' *Wild Earth* **Fall**: 18-28.

<sup>1105</sup> Lorimer J (2015) op cit.: 184.

<sup>1106</sup> Rewilding Britain (2015) 'Rewilding' [Accessed on 28 August 2015 at <http://www.rewildingbritain.org.uk/rewilding/>].

<sup>1107</sup> Haraway D (2008) op cit.: 299.

involvement in the lives of these birds. The geographies that emerge are new, monstrous and generative of new forms of human subjectivity. As Jamie Lorimer argues, humans must turn 'to face the future rather than running from the past, and acknowledging, building, and absenting from relations with all the risky, sustaining, and endearing dimensions of the planet'.<sup>1108</sup>

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<sup>1108</sup> Lorimer J (2015) op cit.: 4.

# Chapter 7

## The Empty Castle

*Extinction, ospreys and geography at Loch an Eilein*

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### 1. Introduction

**August 1961:** at the end of a third successful osprey season at Loch Garten, George Waterston enjoyed a short holiday in Sutherland with his wife. Their route had been adapted from John Harvie-Brown's 1904 natural history of the area, one instalment in his series of regional faunal accounts.<sup>1109</sup> The Victorian natural historian had described the excursions, some half a decade earlier, of the notorious Charles St. John. As a 'sportsman-naturalist,' St. John espoused a love of both game hunting and the natural world. Over the course of an infamous *Short Tour In Sutherland* in 1848, accompanied by professional egg collector William Dunbar, he traversed the wilder parts of the Scottish Highlands in search of sport and rare species. The men visited several lochs where some of the remaining ospreys in Britain bred, encountering nests built on rocky outcrops and castle ruins at Loch Assynt, Loch Laig Aird and Loch an-Iasgair. Whilst Dunbar swam out retrieve eggs from the nest, the sportsman took position and shot the adult birds. In June 1850, Dunbar would write to a Newcastle-based naturalist and client, John Hancock, to report that a collective hunger for eggs and skins had 'finally done for the Ospreys' in Sutherland.<sup>1110</sup>

In documenting these exploits and the species' sad demise in the region, Harvie-Brown dispatched a sketch artist north to render each former rock and ruin site encountered by St. John. The drawings, and a description of the *Tour*, directed George Waterston in 1961. The man already hailed as the architect of the osprey's re-colonisation at Loch Garten writes of his fascination in haunting the footsteps of St. John and Dunbar; 'to see the rocky islets on which the ospreys used to nest' prior

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<sup>1109</sup> Harvie-Brown J and MacPherson H (1904) op cit.

<sup>1110</sup> As quoted in Harvie-Brown J and MacPherson H (1904) op cit.: 186.

to their national breeding extinction in 1916.<sup>1111</sup> What encouraged Waterston to seek out these sites of former osprey existence? Perhaps he was curious – philosophical with success on Speyside – to get a sense of the lost bird he was attempting to restore, and the places that might yet hold promise for its return. He knew that story of loss well, having himself delved into Harvie-Brown's notes and written of the 'long miserable tale of persecution' that it comprised.<sup>1112</sup> That 'miserable tale' is the focus of this final empirical chapter.

As I imagine to have been Waterston's intention, and in closing the thesis' attempts to reckon with the osprey geographies of re-colonisation, I want to reflect on the nineteenth century extinction of the species from Scotland. This chapter seeks to garner a sense of what has been lost and what remains lost despite the more recent (re)involvements that look to secure, know and re-compose osprey life. Reading against the grain of the accounts of nineteenth century travellers, naturalists and sportsmen, via an understanding and conceptualisation of osprey nesting ecology worked out in the previous chapter, I seek to both recover and animate this extinct osprey world and its material culture. Where that chapter examined the promise of future-oriented practices by which a community can be reconstructed, this chapter turns to the deeper past to ask what remains lost despite this restorative work. Drawing from scholarship that concerns species loss, I argue that nonhuman communities and their existence 'on the edge of extinction' challenge us both to acknowledge and stay with the troubles of difficult pasts; and to appreciate extinction as a drawn out process of severing the connections between geographies and species as forms and ways of life in context.<sup>1113</sup> I map the nineteenth century osprey's lifeworld, trace its unravelling, and propose how it returns to haunt today's avian landscapes on Speyside. Specifically, I locate my discussion around 'the best-known and the most famous eyrie site in Scotland': that once found amidst the castle ruins within Loch an Eilein in Rothiemurchus (see Figure 1).<sup>1114</sup>

In tracing the relationships between ospreys and a place like Loch an Eilein, the chapter advances three arguments. Firstly, it argues that osprey life in nineteenth-

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<sup>1111</sup> Waterston G (1962) op cit.: 113.

<sup>1112</sup> Waterston G (1957) 'Ospreys in Speyside' op cit.: 130.

<sup>1113</sup> Haraway D (2010) op cit.; van Dooren (2014) op cit.: 8-10; Yusoff K (2012) op cit.

<sup>1114</sup> Waterston G (1962) op cit.: 87.

century Britain is best understood as comprising a community of birds characterised by a shared material culture and geography of nesting. Understanding the dimensions of this community advances a relational, geographical and historical appreciation of 'species' as constituted through the spatial and historical involvements with humans and the ruined structures they leave behind. Secondly, building upon an understanding of this community and its culture, I argue that the nineteenth century osprey lifeworld became extinct primarily due to two factors: a natural history culture of killing as the route to knowledge; and the persecution of raptors in the management of sporting animal landscapes that reflected the moral, embodied and physical geographies of estate management.<sup>1115</sup> Attempts to safeguard the species failed due to a dissonance between the geographies of protection and those lived by the birds themselves.

Finally, the chapter argues that this former avian community continues to haunt the contemporary landscapes and geographies of the osprey in Britain. I develop an understanding of extinction that is articulated around the loss of situated species *communities* and their 'animal cultures'; the latter characterised in terms of an intergenerationally-wrought, historically contingent, lived relationship with place. I develop an appreciation of this osprey 'hauntology' – the manner in which osprey existence in the present is approached through the hauntings of its past.<sup>1116</sup> I do this for two reasons. On the one hand, haunted sites like Loch an Eilein offer a means to recover osprey-human pasts rendered absent for scholarly critique of the 'genetic determinism' that characterises some contemporary conservation discourses and biopolitics, particularly surrounding species preservation, 'rewilding' and the possibilities of 'de-extinction'.<sup>1117</sup> On the other hand, the chapter's close gestures towards an act of mourning or 'environmental grief work' through its engagement with the former sites of osprey habitation that, following the success stories of the colonisation, hold contemporary species abundance in tension with a coexistent

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<sup>1115</sup> Matless D *et al* (2005) *op cit*.

<sup>1116</sup> Derrida J (2006) *Specters of Marx: The State of the Debt, the Work of Mourning and the New International*.

<sup>1117</sup> Heatherington T (2012) 'From Ecocide to Genetic Rescue: Can Technoscience Save the Wild?' in Sodikoff G (ed) *The Anthropology of Extinction: Essays on Culture and Species Death* (Indiana University Press; Bloomington IN & Indianapolis): 39-66.



geography of absence.<sup>1118</sup> This is to ultimately argue that osprey loss matters living in the wake of de-extinction: the return of the ospreys to Speyside in the 1950s does not excuse, assuage or undo their previous destruction.

The chapter proceeds to characterise the nineteenth century osprey community, using accounts of the osprey's geography contained in a variety of nineteenth century sources to argue that the nesting of birds here might be better considered as being typically representative of an osprey 'culture'. The following section traces the osprey's extinction, and its occurrence at Loch an Eilein. The final section explores the remainder of this lost geography today, the ghosts that cling to Loch an Eilein castle, and the ethical work they might perform. Through this discussion, I argue that the ospreys of today dwell differently to those of the past, demonstrating the need for an expanded ethical consideration of species being and extinction within contemporary narratives of conservation.

## 2. An osprey community

Although records are scant, it is likely the species was well distributed across the UK in the middle ages. From contemporary and analogous observations abroad, Roy Dennis estimates a peak Scottish population between 500 and 1000 pairs.<sup>1119</sup> Here, at least the osprey may have benefitted from early legal protections dating from as early as the twelfth or thirteenth century and certainly from the latter fifteenth century reign of James III safeguarding many raptors for use in falconry.<sup>1120</sup> Outside Scotland, clues to former abundance are drawn from the bird's presence in the fourteenth-century Swansea coat of arms (dating to 1316).<sup>1121</sup> Similarly, the accounts of Tudor commentator Raphael Holinshed – given within the first volume of his *Chronicles of England, Scotland and Wales* published in 1586 – describe 'ospraies' [sic.] breeding in English 'parks and woods.'<sup>1122</sup> Early the following century, Shakespeare makes mention of the osprey in his play *Coriolanus*, suggesting

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<sup>1118</sup> Developing ideas from both Butler J (2009) *Frames of War: When is Life Grieveable?*; and Cunsolo-Wilcox A (2012) 'Climate Change as the Work of Mourning' *Environment and Ethics* 17(2): 137-164; regarding landscapes of absence see Wylie J (2009) op cit.

<sup>1119</sup> Dennis R (1991) op cit.: 31.

<sup>1120</sup> Waterston G (1957) 'Bird Protection in Scotland' *Bird Notes* 27(6) [accessed at RSPB Sandy, The Lodge library]: 169-170.

<sup>1121</sup> Lovegrove R (2007) op cit.

<sup>1122</sup> Holinshed R (1807 [1586]) *Holinshed's Chronicles Of England, Scotland and Ireland, in Six Volumes: Volume 1, England*: 582.

a present population familiar enough to be deployed and understood in literary metaphor.<sup>1123</sup> The species is included in the *Ornithology of Francis Willughby* by John Ray (1678), one of the first dedicated ornithology texts. Ray describes a 'Sea Eagle or Osprey' (Figure 28), 'which preys upon our rivers,' and nests under the Countess of Pembroke's protection in Westmorland.<sup>1124</sup>



Figure 28: 'The Sea Eagle or Osprey', image reproduced from Ray J (1678) *The Ornithology of Francis Willughby* – accessed at RSPB Sandy, The Lodge library. Reproduced with the kind permission of the RSPB.

Whilst a small population would survive in Somerset and Devon as late as the 1840s, by the 1800s the osprey only endured with any consistency as a breeding species in Scotland.<sup>1125</sup> This diminished range reflected legal persecution under sixteenth century Tudor grain laws, aiming to alleviate stresses upon a primarily agrarian populous by rewarding the killing of 'pest' species.<sup>1126</sup> The osprey was

<sup>1123</sup> Waterston G (1962) op cit.: 70.

<sup>1124</sup> Ray J (1678) *The Ornithology of Francis Willughby* [accessed at RSPB Sandy, The Lodge library].

<sup>1125</sup> See mentions in Montagu G (1831[1813]) *The Dictionary of Ornithology* [2<sup>nd</sup> Ed.]; Morris F (1851) op cit.

<sup>1126</sup> Lovegrove R (2007) op cit.

likely targeted for its well-observed propensity to feed from artificial pools and fishponds, a crime for which it suffered into the nineteenth century.<sup>1127</sup> The full extent of this killing is not recorded and the species appears to have ‘disappeared with little evidence left for us to trace its going’ outwith of the Highlands.<sup>1128</sup> Throughout the nineteenth century, ospreys would be recorded nesting at Loch an Eilein in Rothiemurchus and it is to here that I now turn to explore osprey life and its decline in an attempt to expand a narrative of the community’s extinction in Scotland. I will use this site to explore both the character of osprey nesting culture and its extinction along with the birds themselves. I begin with consideration of the relationship between birds and place, developing ideas from the previous chapter.

### **Confidence in castles**

In exploring the geographies of osprey extinction, I understand the generational relationship between ospreys and Loch an Eilein through a conceptual framing of nesting as ‘confidence’ (see Chapter 6). Thus, nesting comprises an active practice of nonhuman place-making: both a case of tuning into and meeting certain conditions for spatial ‘openness’; and the investment of sites with a ‘worldly confidence’ expressed in annual returns and habitations, and affecting of future site preferences.<sup>1129</sup> I first explore the material history of the castle structure before speculating on what may have attracted ospreys to settle there. I argue that the continuous nesting of ospreys here, despite numerous incidents of disturbance (as described in more detail below), is evidence of the wider existence of an osprey nesting ‘culture’ that was attuned to the nesting potential of ruins.

Much like the status of the osprey in Britain prior to the nineteenth century, historical details about Loch an Eilein castle are ‘meagre in the extreme’.<sup>1130</sup> Built on a small islet within Loch an Eilein itself, the castle pre-dates the estate’s ownership

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<sup>1127</sup> For the persecution of the osprey for feeding at artificial pools see Booth E (1887) *Rough Notes on the Birds Observed During Twenty Five Years of Shooting and Collecting in the British Isles*, Vol. 1: 5; for a description of the species’ propensity to fish from artificial water features see Cramp *et al* (1980) *op cit*.

<sup>1128</sup> Lovegrove R (2007) *op cit*: 106.

<sup>1129</sup> Bachelard G (1993) *op cit*: 102-103.

<sup>1130</sup> Simpson W (1937) ‘Lochaneilean Castle, Inverness-shire’ *Antiquarian’s Journal* **1937**(17): 56.

by the Grant family, the proprietors of Rothiemurchus since 1580.<sup>1131</sup> The original fortification has been variously attributed to the Comyn family, in the early fourteenth century;<sup>1132</sup> and Alexander Stewart, the so-called ‘Wolf of Badenoch’ and maverick son of Robert II who tormented Grampian residents until his eventual excommunication for the torching of Moray cathedral.<sup>1133</sup> These (unproven) associations are testament to the manner in which such ruins become host to mythical stories and alternative histories.<sup>1134</sup> Any definitive history of the castle is complicated by its palimpsest-like materiality and contemporary historians date its construction to the latter thirteenth century as a way station, facilitating the Bishop of Moray’s clerical visits to Rothiemurchus.<sup>1135</sup> The island’s last human habitation is contested between the aftermath of two conflicts: the battle of Cromdale in 1690 and the failed Jacobite uprising of 1715, following which the ruin was said to shelter estate residents from marauding bands. Certainly by the early eighteenth century the castle was empty, roofless, and consigned to ruination.

It is difficult to establish when exactly ospreys *first* nested at Loch an Eilein. English Colonel Thomas Thornton’s account of his northern *Sporting Tour*, likely taken during the late 1780s, describes ospreys at Loch Lomond, and conveys reports of their nesting at ‘Loch Morliax [sic], Glenmore.’<sup>1136</sup> Thornton later visited (and misspelled) Loch an Eilein, though he makes no mention of ospreys there. The

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<sup>1131</sup> Smout C (1999) ‘The Grant Lairds of Rothiemurchus’ in Smout C and Lambert R (eds) *Rothiemurchus: Nature and People on a Highland Estate, 1500-2000* (Scottish Cultural Press; Dalkeith): 14-21.

<sup>1132</sup> See Grant E (1972 [1898]) *Memoirs of a Highland Lady 1797-1827*: 137; MacMillan H (1907) *Rothiemurchus*: 39.

<sup>1133</sup> See Barrow G (1999) ‘The Background to Medieval Rothiemurchus’ in Smout C and Lambert R (eds) *Rothiemurchus: Nature and People on a Highland Estate, 1500-2000* (Scottish Cultural Press; Dalkeith): 1-6; Beattie W (1838) *Scotland Illustrated in a Series of Views Taken Expressly for this Work, Vol. 2*: 75; MacCulloch J (1824) *The Highlands and Western Isles of Scotland*: 400.

<sup>1134</sup> DeSilvey C and Edensor T (2013) ‘Reckoning with ruins’ *Progress in Human Geography* **37**(4): 465-485; Harvey D (1979) ‘Monument and Myth’ *Annals of the Association of American Geographers* **69**(3): 362-381; MacDonald F (2014) ‘The ruins of Erskine Beveridge’ *Transactions of the Institute of British Geographers* **39**(4): 477-489; Roth M (1997) ‘Irresistable decay: ruins reclaimed’ in Roth M, Lyons C and Merewether C (eds) *Irresistable decay: ruins reclaimed* (The Getty Research Institute; Los Angeles): 1-23.

<sup>1135</sup> The difficulty of dating the site due to the layers of over-building is described by Simpson W (1937) *op cit*; regarding the Bishop of Moray see Barrow G (1999) *op cit*: 2.

<sup>1136</sup> Smout C (1982) ‘Tours in the Scottish Highlands from the eighteenth to the twentieth centuries’ *North Scotland* **5**(1): 110; Thornton T (1804) *A Sporting Tour Through the Northern Parts of England and a Great Part of the Highlands of Scotland*: 43.

earliest record, therefore, is contained within the diaries of Elizabeth Grant. A child in 1808, paddling in the shallows she observed the ‘eagle’s nest’ atop the crumbling tower, from which ospreys ‘rose [...] and wheeled, skimming over the loch’.<sup>1137</sup> Ornithologists Evelyn Baxter and Leonora Rintoul note that the first reports of ospreys nesting on ruined structures in Scotland emerge around the end of the eighteenth-century.<sup>1138</sup> Traveller Thomas Pennant furnishes one of the earliest descriptions, in 1769, of how ‘Sea Eagles breed in ruined towers, but quit the country in winter.’<sup>1139</sup> Three years later, he similarly describes ospreys nesting upon ‘a ruined castle on Inch Galbraith’, Loch Lomond.<sup>1140</sup> Many of the castles recorded as hosting the species – including Inchgalbraith on Loch Lomond, Ardvreck at Loch Assynt, and Loch an Eilein – had all, it seems, fallen into disuse during the early eighteenth century.<sup>1141</sup> Thus, the same socio-economic transformations unfolding in Hannoverian-ruled Scotland that committed these structures to ruination during the late 1700s also served to generate a new niche in which osprey life could flourish.

Between the accounts of Thornton and Grant we might assume that the birds first arrived at Loch an Eilein some time around the turn of the nineteenth century. It is apparent, when read against more recent work on osprey nesting ecology, that a ruined castle offered certain physical attractions to passing birds. These structures afforded both protection and a vantage from which to spot intruders. Their openness allows a narrow-winged raptor with limited manoeuvrability to return with squirming prey, perhaps sourced from the surrounding area’s stocked lochs or rivers. The solid stonework provides a stable foundation for a characteristically bulky eyrie, built up from piled branches and held together by both friction and sheer weight.<sup>1142</sup> These same criteria can be checked against other castle sites as

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<sup>1137</sup> Grant E (1972) op cit.: 60.

<sup>1138</sup> Baxter E and Rintoul L (1953) *The Birds of Scotland: Their History, Distribution, and Migration* (Vol. 1): 330.

<sup>1139</sup> Pennant T (1771 [1769]) *A Tour In Scotland*: 80.

<sup>1140</sup> Pennant T (1790 [1772]) *A Tour in Scotland and Voyage to the Hebrides* (Part 1): 175.

<sup>1141</sup> The Royal Commission for Ancient and Historical Monuments in Scotland (RCAHMS) gives the following information via its online database concerning the final years of occupation for each of these castles: Inchgalbraith castle (Canmore ID: 42547) was last occupied between c.1590-1700 [<https://canmore.org.uk/event/700911>]; Ardvreck castle (Canmore ID: 4660) was probably last occupied in the eighteenth century [<https://canmore.org.uk/event/648427>].

<sup>1142</sup> See work of Cramp S *et al* (1980) op cit.; Dennis R (2008) op cit.; Hansell C (2002) op cit.; and Hardey I *et al* (2009) op cit.

much as Loch an Eilein, but perhaps there the ruin's location on the loch served as an extra enticement for species with a well-known, almost-magical affinity for sites near water.<sup>1143</sup>

We might speculate what drew ospreys to this and other similar places. The arrival of ospreys at Loch an Eilein might suggest the continued expansion of a broader osprey community into new niches. In the previous chapter I described these birds' propensity for both 'imprinting to area' – generating well-documented annual returns to the regions of past fledging when seeking a nest and a mate – and their capacity for a more specific affiliations with particular site-types – producing localised nesting 'traditions'.<sup>1144</sup> I therefore argue that ospreys are not merely 'good to build with' but 'good to think with' when exploring the historical geographies of animal lives and cultures.<sup>1145</sup> Their inter- and intra-generational confidence in place woven through annual re-use; a tendency for monogamy; and the maintenance of structures ensured that pairs birds could persist on a stable footing for decades, if not hundreds of years.<sup>1146</sup> The young produced from such nests, in turn, carried with them a means to reproduce and extend that form of use. This is an animal culture – a historical and geographically transmitted, situated mode of dwelling – that can be narrated in its relationships, times and places of expression as new forms come to emerge.<sup>1147</sup> I argue that such a culture and its processes of transmission are constitutive of an avian *community*.

### **An osprey community**

It has become a trite observation in contemporary animal geography scholarship to note that 'relations with *collectives or populations* [...] drive how we treat individual non-human others', effacing a sense of 'individual visibility in terms of personality, consciousness, family relationships, and so on.'<sup>1148</sup> In response, scholars have explored relations with individual animals or animal 'characters' in the wild and

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<sup>1143</sup> Poole A (1989) op cit.: 89.

<sup>1144</sup> Newton I (1979) op cit.: 87, 272.

<sup>1145</sup> Deploying the common paraphrasing of the anthropological discussion of animals as a resource for symbolic thought in the work of Claude Levi-Strauss.

<sup>1146</sup> Dennis R (2008) op cit.

<sup>1147</sup> Lestel D (2002) op cit.

<sup>1148</sup> Jones, O. (2000) op cit.: 277-278 [orig. emphasis].

captivity as the basis for an encounter based ethic.<sup>1149</sup> Whilst any shift away from fixed biopolitical notions of species is welcome in formulating a multispecies ethic, it is also true that many aspects of human and nonhuman life remain collectively wrought (and felt) across time and space.<sup>1150</sup> Tracing a middle path in considering the extinction stories of five different bird species, Thom van Dooren argues that species-being constitutes an on-going process of knotted becoming, involving the work done to sustain the connections within and between communities of creatures by which niches are maintained, and social and biological reproduction occur.<sup>1151</sup> Species are thus not generalisable populations or individual taxonomic units; they are 'ways of life', spun between generations of individuals and which often involve beings from other species in contingent alliances or blocks of becoming that bring forth new possibilities or even organisms via processes other than direct filiation.<sup>1152</sup> For Kathryn Yusoff, these concerns are at the fore in facing biodiversity loss, emphasised as a loss experienced at the level of the *community*. As she argues:

'What is shared between communities is what is in common, the inheritances of life and its differences [...] Extinction raises questions about communities or collectives of species beyond the individual, *this* life or *that* life (beyond specific forms or relations). So it is not life *per se* that is at stake in biodiversity loss, but the collective organisation of life, its commons, and its potential to be otherwise.'<sup>1153</sup>

I want to consider Yusoff and van Dooren's more communal notion of species being alongside my assertion that ospreys at Loch an Eilein learned – or were in the process of learning – to utilise castles as *nestable* structures. In Scotland, prior to 1916, evidence for this osprey nesting culture is clear, expressed in the utilisation of a much wider range of nest sites, specifically the settlement of rocks and ruins alongside the trees that are a feature today (see below). This site preference is evident in ornithological and naturalist's accounts of the period. For example, Charles St. John's remarks upon the situation of the nests he encountered shows them 'placed either on highest part of some old ruin, on the peak of some rock

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<sup>1149</sup> Particularly notable examples are 'Angelica' the octopus in Bear C (2011) op cit.; 'Carlos' the Kalahari meerkat in Candea M (2010) op cit.; and 'Cayene' the agility trial dog in Haraway D (2004) op cit.

<sup>1150</sup> Johnston E (2015) op cit.; Srinivasan K (2016) op cit.

<sup>1151</sup> van Dooren T (2014) op cit.; see also Chapter 2's discussion of the work of Marguils L and Sagan D (2002) op cit.

<sup>1152</sup> Deleuze G and Guattari F (2013) op cit.

<sup>1153</sup> Yusoff K (2012) op cit.: 587.

which stands out from the water in a lonely highland loch, or, rarely on the very summit of an old tree.’<sup>1154</sup>

I would speculate that the osprey community had first developed a tradition of nesting on rocky outcrops – such as those that St. John saw in Sutherland. The resonance between these features and the feudal structures left to ruin saw the latter colonised as they became available, with returning mature birds, or those expelled from elsewhere, seeking out new sites. Tuning into ruins in this way also served to cultivate, in the terms of von Uexküll, a nest site ‘search image’ amongst offspring that identified these structures as suitable for nesting within their perception of the environment.<sup>1155</sup> Therefore, the osprey community of the nineteenth century possessed a distinctive spatial vocabulary, in turn possibly expanded and adapted by coming into contact with the remains of human material culture.

As such, the example of castle nesting might be understood as analogous to a human ‘contact language’. Such hybrid forms of communication, such as Pidgins or Creole dialects, are emergent from within similar ‘contact zones’ – as Mary Louise Pratt terms the spaces where the coloniser and the colonised meet, mix and negotiate in the creation of new forms.<sup>1156</sup> Donna Haraway’s attention to contact zones derives from Pratt. However, she uses the term to refer to ‘partners-in-the-making through the active relations of coshaping’: the cross-species mixing that occurs in situated species meetings, with emphasis on the formation of new routes for communication and modes of being.<sup>1157</sup> The notion of ‘contact language’ might therefore be similarly expanded. Such dialects are both ‘inescapably historical’ and geographically locatable in their origins and developmental trajectories to a degree not possible for other languages.<sup>1158</sup>

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<sup>1154</sup> St. John C (1863) *Natural History and Sport in Moray*: 138.

<sup>1155</sup> von Uexküll J (2010) op cit; see the discussion of pylon nesting in Chapter 6.

<sup>1156</sup> See in particular Pratt M (2007) op cit.

<sup>1157</sup> Haraway D (2008) op cit.: 208.

<sup>1158</sup> This phrase is taken from Trouillot M-R (1992) ‘The Caribbean Region: An Open Frontier in Anthropological Theory’ *Annual Review of Anthropology* **21**: 21, as quoted by Garrett P (2012) ‘Dying Young: Pidgins, Creoles, and other Contact Languages as Endangered Languages’ in Sodikoff G (ed) *The Anthropology of Extinction: Essays on Culture and Species Death* (Indiana University Press; Bloomington IN & Indianapolis): 143-162.



In much the same way, we can appreciate that particular modes of species dwelling and co-existence have both geography and history. The osprey castle culture can be understood as the adaptive outcome of a meeting between birds and the generative potential of ruins, creating a new expression of osprey life and a new spatial vocabulary with which the birds recognised the potential for nesting in the landscape. Such a recombinant ecology, as Lestel notes, emphasises both its historicity and the relational processes conducive to emergent human and animal difference.<sup>1159</sup> The contact language analogy holds when we come to consider the place of animal cultures in an understanding of extinction below, since such modes of communication are often marginalised or ignored in treatments of language extinction.<sup>1160</sup> The presence of ospreys at Loch an Eilein demonstrates the lamination of human and osprey histories within the constitution of landscape. This rock and ruin dwelling articulates a historical osprey ‘personhood’ as it has emerged across multiple temporal scales of involvement.<sup>1161</sup>

There are descriptions of nests on several castle ruins, as well as at Loch Morlich on the ruins of an old shooting lodge.<sup>1162</sup> The castle nest on Loch an Eilein therefore appears typical of a widely spread nesting culture that now no longer exists. The invocation of ruins and rocks across St. John and others’ writing suggests that these were typical haunts of the species. Encounters with such nests are documented in the course of travels spanning much of the nineteenth century. Ornithologist William Jardine seems to have *only* observed such nests, asserting Scottish eyries were ‘always placed on the summit of the ruin,’ even with appropriate trees ‘frequent in the vicinity’.<sup>1163</sup> Another writer argued that ospreys only built on trees if ruins or rocks ‘can not be got’, offering an explanation for the mixed tolerance of arboreal and stone sites revealed within records of the species in Britain.<sup>1164</sup>

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<sup>1159</sup> Lestel D (2002) op cit.: 56-58.

<sup>1160</sup> Garret P (2012) op cit.

<sup>1161</sup> Ingold T (1994) op cit.: xxiv.

<sup>1162</sup> Waterston G (1962) op cit.

<sup>1163</sup> Jardine W (1838) *The Naturalist’s Library, Ornithology Vol. IX – Birds of Great Britain and Ireland Part 1: Birds of Prey*: 184.

<sup>1164</sup> ‘Loch-an-Eilan and its Ospreys’ (9 June 1879) *The Scotsman* [Accessed online on 25<sup>th</sup> February 2016] – SNA, BL0000540 18790609.119.0005: 5; for a more general account of osprey nesting practices in the nineteenth century see Booth E (1887) op cit.; Harvie-Brown J and Buckley T (1887) *A Vertebrate Fauna of Sutherland, Caithness, and West Cromarty*: 177; Harvie-

With an understanding of this community and the means by which it was constituted, the section that follows explores the forces that dislodged the ospreys from the castle, and the extinction of this avian population and cultural community. I argue that the empty castle today constitutes the outcome of the extinction's 'dull edge': a century of gradual, sustained persecution and the mismatched geographies between protection and violence. By this logic, as I develop in the final section, the castle ruin is haunted by this former osprey lifeworld.

### **3. Geographies of osprey extinction**

Appreciating extinction as a loss expressed at the level of the community begins from the recognition that to exist is to 'become with' other beings.<sup>1165</sup> The conditions for, and forms of, osprey life on castles, rocks and trees are the result of contingent, historical and geographical involvements. In turn, such historically contingent and relational ontologies of species leads van Dooren to theorise extinction as the gradual unravelling of the ties that bind generations and communities in their continued, relational and intergenerational existence.<sup>1166</sup> Thus, the extinction of an osprey community involves working against the connections that sustain existence in place. Where such a way of life was constituted through meetings and attachment sites, its extinction would involve geographies of detachment, precarity, violence and death.<sup>1167</sup>

The importance of cultural as much as reproductive or evolutionary ties between generations is increasingly clear in both contemporary conservation and the osprey story. Those birds that dwell at the 'edge' of extinction occupy a socially isolated and alien existence, haunting the former landscapes in which they were once abundant.<sup>1168</sup> The processes of detaching a way of life from the field of relations that sustain it are 'neither abrupt nor spectacular,' but tend to be the 'slow, cumulative

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Brown J and Buckley T (1895) *A Fauna of the Moray Basin*, Vol. 2; Harvie-Brown J and MacPherson H (1904) op cit.

<sup>1165</sup> Haraway D (2008) op cit.: 4.

<sup>1166</sup> van Dooren T (2014) op cit.: 22, 27.

<sup>1167</sup> See specifically Ginn F (2014) op cit; Ginn F *et al* (2014) op cit.

<sup>1168</sup> van Dooren T (2015) op cit.

effects' of a consumption-driven violence.<sup>1169</sup> As I argue in the case of the osprey, extinction does not present some iconic 'final death'. Rather, it works via a 'dull edge': the slow, banal violence that follows human 'business as usual.'<sup>1170</sup> Gradually, niches and spaces – ecological, social, biological, and physical – became closed off to both the formation of osprey relations and the potential for osprey flourishing.

I explore the unravelling of a nineteenth century osprey community and attribute the species' demise to two factors: the practices of cabinet naturalism and the rise of sporting estate management practices. I discuss how protection was attempted at Loch an Eilein and through broader legislation. As I explain, this protection, primarily focussed on particular nest sites, was unable to combat a more distributed violence across the lived geographies of avian migration.

## **Causes of decline**

The geographical distributions of raptors (including ospreys) by the nineteenth century should be understood as the product of previous centuries of sustained, low-level persecution under the Tudor vermin acts. For many raptor species however, this 'long era of annual attrition, albeit with little overall effect on populations in most cases, would now give way to the cul-de-sac of extinction' as the killing escalated during the nineteenth century.<sup>1171</sup> It appears the ospreys of Loch an Eilein had nested in relative peace until the early 1840s. By now the species had 'long been a denizen of the ruined tower', featured in travellers accounts of the area.<sup>1172</sup> Whilst ornithologist William Yarrell would write in 1843 that many of its former breeding places were found to be deserted, it is thought that breeding osprey populations did in fact remain in wider Inverness-shire and the historic counties of Argyll, Ross and Cromarty, Perthshire, Sutherland, Dunbarton, Kirkcudbright and Ayrshire.<sup>1173</sup> Yet, as I discuss here, the species was also now beginning to feel the effects of the two primary sources of persecution: a 'cabinet naturalism' that

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<sup>1169</sup> Sodikoff G (2012) 'Accumulating Absence: Cultural Productions of the Sixth Extinction' in Sodikoff G (ed) *The Anthropology of Extinction: Essays on Culture and Species Death* (Indiana University Press; Bloomington IN & Indianapolis): 1-16.

<sup>1170</sup> van Dooren T (2014) op cit.: 3; Yusoff K (2012) op cit.: 580.

<sup>1171</sup> Lovegrove R (2007) op cit.: 43.

<sup>1172</sup> Carruthers R (1843) *The Highland Notebook, or Sketches and Anecdotes*: 209.

<sup>1173</sup> Yarrell W (1871 [1843]) *A History of British Birds [4<sup>th</sup> Ed]: Volume 1, revised and enlarged by Alfred Newton*: 33; see also Baxter E and Rintoul L (1953) op cit.; Waterston G (1962) op cit.

pursued violence as a means to knowledge, and the management of estate environments for game species, to the cost of wider biodiversity.

### **The bloody epistemology of the cabinet**

In 1843, naturalist and sportsman Roualeyn Gordon-Cumming – who would later find fame as a big game hunter on the African continent – made his mark on the castle’s history by becoming the first recorded individual to take osprey eggs from the nest there.<sup>1174</sup> The impulses of a cabinet culture of naturalism are frequently labelled as one of the key factors in the osprey’s decline in nineteenth century Britain (as well as featuring in the story of its return: Chapter 3). The activities of self-professed ‘sportsman-naturalists’, killing birds and taking eggs for natural history collections, were part and parcel of a route to scientific knowledge predicated upon the accumulation, circulation, comparison and categorisation of specimens. The origins of ornithology as a science in the early decades of the nineteenth century are found amidst such work: the avian specialisation amongst some natural history enthusiasts was driven by the sheer number of new specimens delivered to Britain following late-eighteenth and early-nineteenth colonial expeditions, and their knowledge-gathering ‘cycles of accumulation’.<sup>1175</sup> A mid-to-late nineteenth century boom in cabinet naturalism reflected a burgeoning enthusiasm for natural history, expressed in increasing numbers of specimens moving through cabinets, collections and auctions.<sup>1176</sup>

The arrival of collectors on Speyside in the 1840s followed a ‘peak’ of intensive collecting activity during that decade – characterised by the tours of St. John and William Dunbar. Their exploits are accredited with the near – if not total – eradication of the osprey in Sutherland by 1850.<sup>1177</sup> As an individual, St. John demonstrates the tension at the heart of this ambivalent naturalism; a man for whom ‘the forces of care and suffering [flowed] through the same circuits’.<sup>1178</sup> His

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<sup>1174</sup> See for example Gordon-Cumming R (1915) *The Lion Hunter*.

<sup>1175</sup> Latour B (1987) op cit.: 219-232; Farber, P (1997) *Discovering Birds: The Emergence of Ornithology as a Scientific Discipline, 1760-1850*.

<sup>1176</sup> Allen D (1976) *The Naturalist in Britain: A Social History*; Shrubbs M (2013) *Feasting, fowling and feathers: a history of the exploitation of wild birds*.

<sup>1177</sup> Accounts are given in Harvey-Brown J and Buckley T (1887) op cit.; Harvey-Brown J and MacPherson H (1904) op cit.; with a summary of the damage wrought in McGowan R (2009) op cit.

<sup>1178</sup> Ginn F *et al* (2014) op cit.: 121.

self-proclaimed love of nature, a domestic life oriented around the keeping and studying of a whole range of creatures, and a documented dislike of industrial forms of highland sport – preferring the thrill of the stalk and hunt – sit awkwardly with his trigger-happy pursuit of the osprey.<sup>1179</sup> This contradiction is at the fore of his accounts from Sutherland: in one notorious passage he admits to feeling ‘really sorry’ after shooting a female osprey at Loch Laig an Aird.<sup>1180</sup> Days earlier, observing an empty nest at Loch Assynt, he paused to reflect, seemingly without irony, on the plight of the species:

‘Why the poor osprey should be persecuted I know not, as it is quite harmless, living wholly on fish of which everyone knows that there is too great an abundance in this country for the most rigid preserver to grudge this picturesque bird his share. The fact probably is that his skin is worth something to keepers and others, as they can always get a few shillings for it, and therefore the bird is doomed to destruction. The “auri sacra fames” [Latin: *accursed hunger for gold*] will soon put an end to his race in this country.’<sup>1181</sup>

It is too generous to claim St. John was unaware of the damage he was doing. Similarly, a characterisation in protectionist accounts of his sentiments as mere ‘crocodile tears’ also rings insufficient.<sup>1182</sup> Rather, his writings suggest that amongst Victorian naturalists, the relationship between knowledge and violence was often extremely ‘awkward’: both destructive of bird life *and* the means by which it became the object of understanding and moral-aesthetic appreciation.<sup>1183</sup> Such naturalism reflects an articulation of ‘the bloody epistemology of the hunter’ towards more scientific endeavours.<sup>1184</sup> Sight records were not generally trusted until the development and adoption of more reliable camera and optical equipment from the latter-nineteenth and early-twentieth centuries, therefore birds could only be reliably identified if shot and retrieved.<sup>1185</sup> In a similar manner to hunting and highland sport, cabinet naturalism also reinforced and performed certain idealised notions of colonial masculinity: the route to improvement of the self by way of

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<sup>1179</sup> This more ambivalent figure is present in the memoirs, reflections and characterisations of the sportsman-naturalist by St. John C (1919 [1847]) *Wild Sports and Natural History of the Highlands*: xxviii; St. John H (1884) ‘Recollections of the Author’ in St. John C (1884) op cit.: xi-xiii; Waterston G (1962): 109.

<sup>1180</sup> St. John C (1884) op cit.: 32.

<sup>1181</sup> St. John C (1884) op cit.: 21.

<sup>1182</sup> Lovegrove R (2007) op cit.: 69; Brown P (1979) op cit.: 28-36.

<sup>1183</sup> Lorimer J (2014) op cit.: 195.

<sup>1184</sup> Lorimer J and Whatmore S (2009) op cit.: 688.

<sup>1185</sup> See Ryan J (2000) op cit.; discussion in Chapter 5.

scientific interests and the display of skill and prowess via feats of daring, a 'test of wits' in the field.<sup>1186</sup> The osprey, a denizen of the wilder north where 'land and water eagles, now exterminated elsewhere, still [held] their reign', was, for naturalists like Charles St. John, provocative of a particularly visceral enthusiasm. It was a noted rarity and there was the promise of adventure that would accompany attempts to obtain a specimen.<sup>1187</sup>

St. John draws a clear (and sometimes inconsistent) distinction between his own motives for collecting and those driven by the 'accursed hunger for gold'. Many of those who would continue to procure eggs (including into the twentieth century) espouse both St. John's love of nature and deep enthusiasm for collecting, against negative portrayals from without of their motivations and philosophies.<sup>1188</sup> But if he occupied a more ambivalent position then that of his companion in Sutherland, William Dunbar, demonstrates that some collectors did indeed collect professionally for payment. His brother, Lewis Dunbar, would follow Roualeyn Gordon-Cumming to Speyside in 1848. Each collected specimens for wealthy southern naturalists including the Newcastle-based John Hancock and noted collector John Wolley. After Wolley's death his collection was bequeathed to the ornithologist (and bird protectionist) Alfred Newton, who published a catalogue of his collection as the *Ootheca Wolleyana*. The text contains descriptions of several of Lewis Dunbar's nocturnal raids on Loch an Eilein, conducted annually from 1848 to 1852.<sup>1189</sup> These were cloak and dagger incursions in freezing conditions, the promise of profit complementing the thrill of such a challenge to bodily endurance and guile.

The nest site is a vital geographical nodal point within the osprey lifeworld: the location through which the movements of migration circulate and around which birds wheel their an annual refrain to the rhythms of climate and fish stocks. Within

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<sup>1186</sup> See in particular the discussions of the cultural geographies of highland sport in Lorimer H (2000) op cit.; and the discussion of performances of a masculine colonial identity by way of ornithological collecting on Gibraltar in Greer K (2009) op cit.

<sup>1187</sup> Innes C 'Memoir of Mr St. John' in St. John C (1863) op cit.: xxvi

<sup>1188</sup> See discussion in Cole E (2016) op cit.; Cole A and Trobe W (2011) op cit.; Lorimer H (2014) op cit.

<sup>1189</sup> Wolley J and Newton A (1864) *Ootheca Wolleyana: An Illustrated Catalogue of the Collection of Birds' Eggs Formed by the Late John Wolley (Part 1: Accipitres)*: 58-66; Harvie-Brown J and Buckley T (1895) op cit.; Cash C (1914) 'History of the Loch an Eilein Ospreys' *The Scottish Naturalist* 31(July): 149-158.

what Cole terms an ‘almost-animal geography’, the nest is also a site hosting the vital work of both social and biological reproduction.<sup>1190</sup> Here the fertilisation, laying and incubating of eggs, transitioning life from a virtual pool of genetic material into actualised forms, takes place. Such places – as I’ve described – are also the locus for the development and reproduction of a range of social, geographical relationships. As a result, violence or trauma towards birds at the nest can serve to disrupt this intergenerational work, jeopardising the ability of a community of birds in place to continue. I have argued in previous chapters of the possible effects of such site trauma, causing ‘frustration’ behaviour and the loss of confidence in a nest (Chapter 3; Chapter 6). Certainly the five-year onslaught by Dunbar served to dislodge a then-resident pair of ospreys from the castle, and instigate a temporary absence of birds at the site until the 1860s, or possibly even the 1870s.<sup>1191</sup> When they did return, ospreys continued to be robbed, despite the fact that some protection was now in place (see below). Of 24 records of attempted nesting at Loch an Eilean between 1846 and 1899, 15 mention eggs being taken at either the castle or nearby lochs (to which the birds might flee if they were disturbed). As one early-twentieth century natural historian writes:

There are many blanks in the records, but it is surprising that where the Ospreys were actively protected by the proprietor, and where secrecy was a first aim of the harrier, so many of the records which have survived should reveal the latter's nefarious deeds.<sup>1192</sup>

Whilst the persecution of species by collectors may have had more of an impact in regions such as Sutherland, it would be a further 50 years before the ospreys deserted Loch an Eilean entirely. The re-colonisation of the castle, albeit after over a decade of absence following Dunbar’s activities, at least suggests that the community was large enough such that other pairs, lacking the trauma experienced at the site, could settle the ruins when they became available, until the end of the nineteenth century.<sup>1193</sup> However, it was also the case that ospreys faced threats from another source.

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<sup>1190</sup> Cole E (2016) op cit.: 18.

<sup>1191</sup> Cash C (1914) op cit.: 153.

<sup>1192</sup> Ritchie J (1920) *The Influence of Man on Animal Life in Scotland*: 192.

<sup>1193</sup> See particularly the arguments of Jourdain, F (1911) ‘Notes and Queries: One of the Causes of our Rare Birds disappearing.’ *The Zoologist [4<sup>th</sup> Series]* **15** (845: November, 1911):

### Managing the environment for sport

Besides the activities of collecting naturalists, there were other motives to disturb and kill ospreys at the nest, reflective of the burgeoning nature-culture of the Victorian Highlands. The nineteenth century popularisation of highland culture and iconography by the royal family on Deeside found a material expression in the wider landscape through the growth of the sporting estate model.<sup>1194</sup> The large, 'empty' wilderness estates, themselves a product of the longer history of land seizures, evictions and clearances following the Jacobite uprisings, provided a *nouveau riche* industrialist class in the south with space in which perform a visceral Highland fantasy, hunting game species such as deer and grouse.<sup>1195</sup> Hillsides and lochs were stocked and managed for the select benefit of game species. This approach to the environment was to the great disadvantage of other creatures: birds of prey were labelled vermin in the presence of which 'no moors or manors can abound with game.'<sup>1196</sup> The nineteenth century saw a stark increase in the rampant killing of raptors, along with the dramatic - indeed terminal - declines of several species, including the red kite, sea eagle and the osprey.

Providing advice on how best to rid one's moor of birds of prey and other pest species in his book *The Moor and the Loch*, John Colquhoun described how he himself had trapped and killed the ospreys long returning to nest on ruins found on Loch Lomond.<sup>1197</sup> Because of the bird's site faith, he could lie in wait to kill the bird, confident of a return to the nest. Whilst the Game Act (1831, 1832 in Scotland) paradoxically represents some of the earliest legislation for protecting birds,

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435; and Jourdain F (1912) 'Notes And Queries: Causes of our Rare Breeding Birds disappearing.' *The Zoologist* [4th Series] **16** (848: February 15th, 1912): 74-77.

<sup>1194</sup> Pringle T (1989) 'The privation of history: Landseer Victoria and the Highland myth' in Cosgrove D and Daniels S (eds) *The Iconography of Landscape* (Cambridge University Press; Cambridge): 142-161.

<sup>1195</sup> See the commentaries and critical analyses of Higgins P, Jackson L and Jarvie G (1997) "Deer Forests, Sporting Estates and the Aristocracy: Some Preliminary Observations" *Scottish Centre Research Papers in Sport, Leisure and Society* **2**: 32-52; Lister-Kaye J (1994) *Ill Fares The Land: A Sustainable Land Ethic For the Sporting Estates of the Highlands and Islands of Scotland*; Wightman A, Higgins P, Jarvie G. and Nicol R (2002) "The Cultural Politics of Hunting: Sporting Estates and Recreational Land Use in the Highlands and Islands of Scotland" *Culture, Sport, Society* **5**(1): 53-70.

<sup>1196</sup> Colquhoun J (1840) *The Moor and the Loch: Containing Practical Hints on Most of the Highland Sports, and Notices of the Habits of the Different Creatures of Game and Prey in the Mountainous Districts of Scotland, with an essay on Loch Fishing*: 113.

<sup>1197</sup> Colquhoun J (1840) op cit.: 86.



designating close seasons for game species, the law also provided a framework for employing gamekeepers to manage estates.<sup>1198</sup> As Waterston argues in his own account of the osprey's extinction, many keepers 'saw the plunge of the osprey not as an act of grace and beauty but only as highly effective competition against the rods and lines of their masters'.<sup>1199</sup> Job security in such a role demanded the maintenance of high game stocks of grouse, deer and fish for estate owners or tenants, legitimating the destruction of any species threatening that production.

Substantial advances in the technologies of optics and firearms – particularly the shift from muzzle to breach loading that allowed a swifter reload by the 1860s – also assisted in both the eradication of game and 'vermin'. Some trace of the birds killed is found in surviving estate and taxidermists' record books.<sup>1200</sup> However, few such documents or 'hard figures' survive. Given the additional lack of data for species distributions prior to nineteenth century, any definitive quantification of the actual scale of estate-led destruction is therefore impossible.<sup>1201</sup> As a flavour of the extent, The oft-quoted example of Glengarry estate does at least give a sense of the magnitude of destruction. Between 1837 and 1840 on this one estate, 1498 birds of prey were killed, including 18 ospreys.<sup>1202</sup>

The Rothiemurchus estate, within which Loch an Eilein was situated, was made a deer forest in 1843. Elizabeth Grant's memoirs describe all manner of sporting clients who came to Speyside and stayed at the Grant family home at the Doune. The development of transport infrastructure, particularly the railway north from 1860, would make the area more accessible to the far-flung sporting visitor and tourist.<sup>1203</sup> In 1872, sporting tenant Lord Stanford shot an osprey on the estate. As Harvie-Brown would later describe, the event was not 'premeditated' but merely the result of an instinctive 'quick snap shot' in response to the sight of an unusual

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<sup>1198</sup> Shrubb M (2013) op cit.

<sup>1199</sup> Waterston G (1962) op cit.: 66.

<sup>1200</sup> See the work by McGhie H (1999) 'Persecution of birds of prey in north Scotland as evidenced by taxidermists' stuffing books' *Scottish Birds* 20(2): 98–110.

<sup>1201</sup> Lovegrove R (2007) op cit.: 11.

<sup>1202</sup> Ellice E (1898) *Place-Names in Glengarry and Glenquoich and Their Origin*: 27.

<sup>1203</sup> Gold J and Gold M (1995) *Imagining Scotland: Tradition, representation and promotion in Scottish tourism since 1750*; Lambert R (1999) op cit.; Lambert R (2001) op cit.

bird rising suddenly from a deep mountain burn.<sup>1204</sup> This osprey, it seems, was unfortunate to be caught in between two particularly lethal versions of the ‘human-osprey’ relationship: a bloody epistemology of birds as specimens to be killed and made known, and the osprey as a species inhabiting the particular animal landscape of the hunting estate, within which it was labelled vermin and eligible for death.<sup>1205</sup> However, this would prove to be the only (recorded) time that an osprey would be killed in Rothiemurchus as a result of highland sport. The Grants instead pursued a programme of protection for the birds against collectors, tasking their keepers to *watch over* the birds from the 1850s onwards. I now explore these attempts to stall the species extinction below.

### **Stalling Extinction**

Rob Lambert has detailed the efforts of the Grants of Rothiemurchus to safeguard ospreys at Loch an Eilean from around 1851, following Dunbar’s robberies. In 1869, a ban on boating whilst the birds were present was implemented; in 1893, the estate keepers were tasked with ‘osprey watch’, apparently making early logged observations of their comings and goings. The laird behind these efforts, John Peter Grant III, was posthumously awarded a medal by the Royal London Zoological Society for his efforts to protect the species (Figure 29).<sup>1206</sup> Arguably, a large part of the motivation underlying such protective measures came from the birds long association with a site that had an enduring reputation as a tourist destination and beauty spot.

The earliest descriptions of Loch an Eilean evoke the romantic sensibilities that drove a late-eighteenth and nineteenth century search for the sublime and picturesque. These ideals fuelled a voracious tourist reimagining of Scotland from an environment described by Samuel Johnston as ‘denuded’ and sterile, to one associated with the ‘invented’ myths of Ossian and clan iconography. The Highlands became a landscape characterised as awe-inspiring and spectacular.<sup>1207</sup>

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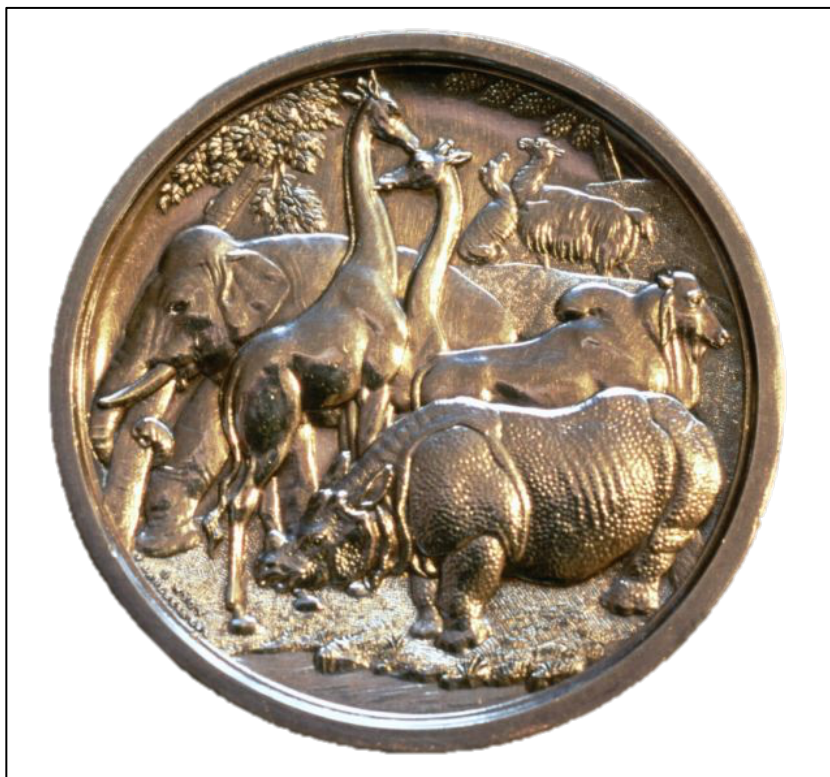
<sup>1204</sup> Harvie-Brown J and Buckley T (1895) op cit.: 85.

<sup>1205</sup> Matless D (2000a) op cit.

<sup>1206</sup> See Lambert R (2001) op cit.: 75-80.

<sup>1207</sup> Andrews M (1989) *The search for the picturesque*: 197; Gold J and Gold M (1995) op cit.; Smout C (2000) op cit.; Trevor-Roper H (1989) ‘The Invention of Tradition: The Highland Tradition of Scotland’ in Hobsbawm E and Ranger T (eds) (2007) *The Invention of Tradition* (Canto; Cambridge): 15-41.

The late-eighteenth and early-nineteenth century fashion for landscape tours saw itineraries punctuated by designated stops at locations like Loch an Eilein, where 'the composition of landscape features' could be subject to 'contemplation and appraisal'.<sup>1208</sup> The ruined castle chimed with a romanticisation of the ruin amidst the picturesque. Such structures were desired in two ways. Firstly, as 'rough objects' they challenged an artist's skill, and could draw in the eye when made a feature of a work of landscape art. Secondly, ruins provided a source of sensory and philosophical stimulation. They evoked a melancholy and horror in the face of the destruction of an older world, reclaimed by an 'inexorable' nature that filled the spaces of decay with 'new forms of growth'.<sup>1209</sup>



**Figure 29:** Photograph of the Royal Zoological Society medal with detail, presented posthumously to John Peter Grant III in 1893. Taken by and reproduced with the permission of Stewart Taylor.

Visiting Speyside in the 1830s, artist William Beattie sketched the castle for his book *Scotland Illustrated*. In tracing its rugged outline, he waxes lyrical about the aesthetic

<sup>1208</sup> Andrews M (1989) op cit.: 232-3.

<sup>1209</sup> See Edensor T (2007) 'Sensing the ruin' *The Senses and Society* 2(2): 223; Roth M (1997) op cit.: 2.

pleasures of a scene that he likened to Horace Walpole's 1764 gothic fiction *The Castle of Otranto*. Gazing upon the alleged-seat of past Badenoch nobility, now tenanted by the 'eagles of Cairngorm', Beattie remarked how the visit 'made a strong impression on the imagination.'<sup>1210</sup> In the vein of Beattie's writing, references to the ospreys of Loch an Eilean appear in several travellers accounts of the site from the nineteenth century. The birds' presence 'animated' an experience of landscape within the aesthetic notions of the day.<sup>1211</sup> In one of the first such mentions of the ruin, geologist John MacCulloch, travelling Scotland from 1811 to 1821, describes a site swirling with 'old world visions and romances', the osprey figured as a 'worthy successor' to the castle's ancient proprietors.<sup>1212</sup> The ospreys added an additional aesthetic layer to a scene already celebrated realising the 'purest of picturesque pleasures'.<sup>1213</sup> Loch an Eilein a place where '[a]rt has been combined with nature'.<sup>1214</sup>

The ruin was thus a space that accommodated both recombinant osprey ecologies and a suite of aesthetic and mythical considerations and histories.<sup>1215</sup> The profile of the birds here received a considerable boost following an article in the Scotsman, published anonymously by William Jolly, HM Inspector for Schools, in June 1879. Recounting a recent visit, he bid the reader 'go to Rothiemurchus' where they could 'come within less than fifty yards' of this spectacular bird.<sup>1216</sup> In a further article the following a second visit in 1880 he described how the hen's 'natural fears' soon departed as she became habituated to the presence of onlookers. As a result of her indifference, the birds in the nest were 'observed as easily as a stuffed specimen in the glass case of a museum.'<sup>1217</sup>

The interest of tourists and their enthusiasm for the protection of the birds at Loch an Eilein reflected broader attitudinal changes concerning the environment taking

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<sup>1210</sup> Beattie W (1838) op cit.: 74.

<sup>1211</sup> Rose M and Wylie J (2006) op cit.

<sup>1212</sup> MacCulloch J (1824) op cit.: 401.

<sup>1213</sup> Andrews M (1989) op cit.: 40.

<sup>1214</sup> Carruthers R (1843) op cit.: 209.

<sup>1215</sup> DeSilvey C and Edensor T (2013) op cit.: 477.

<sup>1216</sup> 'Loch-an-Eilan and its Ospreys' (9 June 1879) op cit.: 5.

<sup>1217</sup> Jolly W (1881) 'A Second Glance at the Osprey in the Highlands' *Good Words* **1881**(1): 337; see also the discussion in Chapter 5.

place over the century. The rise of animal welfare concerns and more compassionate sensibilities towards the natural world were evident in art, literature, legislation, and popular social movements (such as vegetarianism and antivivisectionism). Such trends are well documented in the more animal-oriented histories of the period.<sup>1218</sup> For birds, a growing protest against the plume trade – the killing of birds to use feathers and skins in millinery – spurred both early protectionist legislation, in the form of The Protection of Seabirds Act (1869), and the establishment of the ‘Society for the Protection of Birds’, in 1889 (granted Royal charter in 1904). In terms of natural history, there was also an emerging shift towards less violent modes of engagement that would see the telescope, the camera, the hide and the notebook displace the gun as the means by which field knowledge could be obtained (as I discussed in Chapter 5). Preceding such technologies, the proximity of the castle nest to the shore allowed for a rather more intimate encounter with a rare, charismatic bird than was usual at this time, outwith more bloody means. Providing visitors were not too boisterous, the ospreys could be watched throughout the summer, constituting one of the earliest examples of ‘eco-tourism.’<sup>1219</sup>

Clearly the site constituted an important contact zone between humans and birds of prey. The ruin was something of an ‘interspecies embassy’, permitting for humans a meeting with, and education in the life of, ospreys as ethically significant others despite a wider geography of persecution.<sup>1220</sup> Two communities whose encounters were increasingly rare (and more commonly lethal for the bird) could encounter each other with a measure of curiosity and ethically-inflected interest. The ruin, its aesthetic associations and physical setting, allowed a more curious, inquisitive and sympathetic gaze to take hold, such visibility of the birds affording ‘extended study.’<sup>1221</sup> These were also birds being described as ‘the rarest of all’ that bred in Britain.<sup>1222</sup> As Yusoff argues, those beings existing on the verge of extinction possess a magically captivating quality; a *frisson* of ‘now you see them, now you don’t’ that ignites interest and compassion from the fear that they might soon be gone for

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<sup>1218</sup> See Thomas K (1983) *Man and the Natural World: Changing Attitudes in England, 1500-1800*; and Kean H (1998) *Animal Rights: Political and Social Change in Britain Since 1800*.

<sup>1219</sup> Lambert R (2001) op cit.: 86.

<sup>1220</sup> Taylor C and Carter J (2013) ‘The Agency of Dolphins: Towards Inter-species Embassies as Sites of Engagement with ‘Significant Otherness’’ *Geographical Research* **51**(1): 1-10.

<sup>1221</sup> Jolly W (1881) op cit.: 338.

<sup>1222</sup> Gray R (1871) *The Birds of the West of Scotland Including the Outer Hebrides*: 18.

good.<sup>1223</sup> Crowds of visitors came each year, many writing to the Grant lairds to praise their efforts at protecting the birds, urging such arrangements to continue.

In the manner of the contemporary raptor visitor centre that mediates the affective encounter between humans, spectacular wildlife and its conservation, Loch an Eilein foreshadowed the work later attempted at Loch Garten by the RSPB.<sup>1224</sup> Lambert describes how visitors' accounts reveal a sense of the birds as individuals; their annual exploits were anthropomorphised into those of a nuclear family.<sup>1225</sup> Such a contact zone was characterised by interest and enthusiasm from human observers. But these were also changed conditions for the ospreys; detracting from 'the solitude which the birds like'.<sup>1226</sup> At times, during the final decades of osprey residence, the birds fled to seek alternative sanctuaries at Loch's Gamhna and Morlich due to the noise of tourists, often with the result that their eggs were taken from these nests.<sup>1227</sup>

The ospreys would return to Loch an Eilein until the end of the nineteenth century, and cling to other sites – such as Loch Arkaig – for several years into the twentieth century.<sup>1228</sup> The birds at the castle were sheltered, to an extent, from the persecution they might face at their nests. Yet osprey life was not static but mobile; and killing still took place on the move.

## **Eradication on Migration**

Despite these attempts at protection, the species had been rendered 'nearly or quite extinct in the south of Scotland' by the second half of the nineteenth century.<sup>1229</sup> Private efforts deferred extinction in places like Loch an Eilein, but diminishing returns of birds to re-colonise empty haunts reflected the lethal impacts of the industrial-scale management of landscape for game species. The absence of ospreys

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<sup>1223</sup> Yusoff K (2010) 'Biopolitical Economies and the Political Aesthetics of Climate Change' *Theory, Culture & Society* 27(2-3): 89.

<sup>1224</sup> See also discussion of conserving the red kite in Wales by Brettel J (2015) op cit.

<sup>1225</sup> Lambert R (2001) op cit.

<sup>1226</sup> Harvie-Brown J and Buckley T (1895) op cit.:

<sup>1227</sup> Cash C (1914) op cit.; MacMillan H (1907) op cit.: 41.

<sup>1228</sup> Cameron D (1948) 'Recollections about the Ospreys at Achnacarry' *British Birds* 36(9): 184.

<sup>1229</sup> More A (1865) 'On the Distribution of Birds in Great Britain during the Nesting-season' *Ibis* 7(2): 126.

from the castle for a decade or more after 1852 might be attributed to there being fewer mature birds in circulation able to re-colonise a site left vacant following Dunbar's exploits.

The lived geographies of ospreys had become increasingly fraught from the early decades of the nineteenth century. They now endured the risk of being picked off by the skyward gun sights that began to populate moor uplands.<sup>1230</sup> It appears that many migrating ospreys were being regularly shot in southern English counties, such as Devon, 'almost every year' by as early as the second decade of the 1800s.<sup>1231</sup> Whilst twentieth-century studies determine that an osprey's northerly spring migration can be undertaken in under a month, southerly migration in autumn occurs at a more leisurely pace. Particularly juvenile birds have been observed making 'off-passage' stopovers en route at areas of productive fishing, lasting up to weeks at a time.<sup>1232</sup> It appears similar behaviour was noted amongst the dwindling Victorian population.<sup>1233</sup> Migration therefore saw the osprey run a gauntlet of 'innumerable shotguns' on their passage to Africa. A stop-over on a less favourable estate, 'whose owners miss no opportunity of grassing anything uncommon, every spring and autumn' could put birds in harms way.<sup>1234</sup> Despite the attempts to provide protection in the north, it was lamented by Harvie-Brown that ospreys 'continue to migrate and suffer death' in the south.<sup>1235</sup>

The protection and celebration of the ospreys at Loch an Eilean was in rather stark contrast to the prevailing attitudes elsewhere. As noble as these efforts to protect the birds were, it could never be enough given the lives of ospreys were lived through their rhythms of migration. There is a parallel here with the story of osprey biosecurity told in Chapter 4, and the difficulties of securing against pesticide contamination. In that tale, efforts to protect against disturbance could not prevent insidious materials *within* the environment entering the nest by way of an array of ecological connections between the birds and their surroundings. Similarly, in the

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<sup>1230</sup> Jardine W (1838) op cit.: 184; Yarrel W (1871) op cit.: 32-33.

<sup>1231</sup> Montagu G (1831) op cit.: 347.

<sup>1232</sup> Cramp S *et al* (1980) op cit.: 268.

<sup>1233</sup> 'The Vanishing Osprey' (23 January 1912) *The Scotsman* [Accessed online on 25<sup>th</sup> February 2016] – SNA, BL0000540.19120123.060.001111: 11.

<sup>1234</sup> Kearton R (1899) *Our Rarer British Birds: Their Nests, Eggs and Summer Haunts*: 61.

<sup>1235</sup> Harvie-Brown J (1896) 'No. 6 – Osprey', op cit.

nineteenth century, there was a space beyond the nest where ospreys fell victim to a more extensive environment of violence (though not one as 'slow' as the cumulative effects of DDT). As Dennis remarks, even an estate as large as Rothiemurchus could not sustain populations of predatory birds within the climate of persecution characterising the wider country.<sup>1236</sup> Protectionists looking to safeguard ospreys and other rare birds towards the end of the nineteenth century had begun to realise that defending a nest site was not enough. It was in those areas through which the birds travelled south that 'we, who desire their protection, most require the aid and application of the law'.<sup>1237</sup>

As mentioned above, legislation to prevent the killing of wild birds had been instituted in 1869. Laws followed to protect wildfowl in 1870 and 1872 before the first 'comprehensive' Wild Birds Protection Act in 1880, repealing all previous laws and scheduling a blanket close season for all birds between 31<sup>st</sup> April and 1<sup>st</sup> August. In addition, a list of around 70 species was granted 'special protection'.<sup>1238</sup> In reality, any bird not given special protection could be killed freely on an estate with the verbal permission of the landowner. As such, the majority of species, including raptors, received almost no respite. Yet the law did enable local councils to extend special protections at a regional level. From 1884, such protection could be extended to eggs and, from 1896, to parts of the year not declared a close season under the original act. Effective protection meant scheduling the species 'in all the counties, not only where it breeds now, but also in all the counties where it formerly bred', alongside the 'many English and Scottish counties through which it passes on migration'.<sup>1239</sup> Those seeking to protect the osprey, such as the fledgling Society for the Protection of Birds, could lobby for these additional protections. In reality, the result was an inconsistent, patchwork geography of added legal safeguards for different species. By 1896, the osprey had been scheduled some form of protection in twenty English, Welsh and Scottish counties, yet none of were areas where it continued to breed. It also lacked legal protection in many of the counties through

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<sup>1236</sup> Dennis R (1999) 'The Birds and Mammals of Rothiemurchus' in Smout C and Lambert R (eds) *Rothiemurchus: Nature and People on a Highland Estate, 1500-2000* (Scottish Cultural Press; Dalkeith): 26.

<sup>1237</sup> Harvie-Brown J (1896) 'No. 6 - Osprey', op cit.: 4.

<sup>1238</sup> Smout C (2000) op cit.; Moss S (2004) op cit.; Lovegrove R (2007) op cit.

<sup>1239</sup> Harvie-Brown J (1896) 'No. 6 - Osprey', op cit.: 3.



which it migrated.<sup>1240</sup> Irish sporting estates, in particular, were blamed for the depletion of the Scottish osprey; especially by collectors, who felt unfairly maligned in accounts of the community's extinction.<sup>1241</sup> The disjoint between the geographies of the law and the actual routes that birds might take when migrating through Britain (never mind the huge distances of their journey travelled abroad) saw the osprey community 'slip between the cracks' in the legislation that might have preserved it.<sup>1242</sup>

Under the law, and through its piecemeal application, the osprey's safeguarding was neither adequately furnished at the nest or on migration.<sup>1243</sup> Without a means of protecting birdlife in terms of its continuous annual movement between wintering and breeding grounds, the population was eroded. The mature adults, those necessary to do the vital maintenance and reproductive work that was also being disrupted at the nest, were killed along with the juvenile birds whose returns had the potential to rejuvenate and continue the community's situated way of life. The once dispersed community now relied upon 'private effort' for protection, becoming 'excessively local' in the process.<sup>1244</sup> Away from sites of particularly securing involvements, where the fraying connections between bird and place where being held together by sympathetic human efforts, the unravelling of the community was unchecked.

### **The end of a community**

The final decade of the ospreys' residency at Loch an Eilein was a precarious one. By 1895, Harvie-Brown and Thomas Buckley would estimate that just three to four pairs remained attempting to breed in Scotland, one being at Loch an Eilein. The birds would cease to breed at the castle within three years of the award of the Grants' Zoological Society medal for efforts at protection. Of the final 12 years of osprey residence there, breeding was successful in just five, otherwise falling afoul

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<sup>1240</sup> Summarised in Marchant J and Watkins W (1897) *The Wild Bird Protection Acts: 1880-1896*: 80-81.

<sup>1241</sup> See Harvie-Brown J (1912) 'Notes And Queries: Causes of our Rare Breeding Birds disappearing,' *The Zoologist [4<sup>th</sup> Series]* **16** (849: March 15<sup>th</sup>, 1912): 112-114; Jourdain F (1911) op cit.; Jourdain F (1912) op cit.; McGowan R (2009) op cit.

<sup>1242</sup> Srinivasan K (2013) op cit.: 109.

<sup>1243</sup> Harvie-Brown J (1896) 'No. 6 - Osprey', op cit.: 2.

<sup>1244</sup> Dixon C (1898) *Lost and Vanishing Birds: Being a Record of some Remarkable Extinct Species and a Plea for some Threatened Forms*: 113; Kearton R (1899) op cit.

of tourist disturbance and nest robberies. Accounts of these years might also be read to reveal a more tense existence here for the ospreys themselves, amidst the deterioration of the community at large. Aerial skirmishes with intruding ospreys in 1888 and 1896 left a female bird dead in the water, later retrieved and mounted on Grant's mantelpiece, as well as the eggs smashed, respectively.<sup>1245</sup> It is not inconceivable, given twentieth century observations of intruding birds (see Chapter 6), that these antagonising ospreys were either those whose mates had fared ill on migration, or juveniles searching in vain for a breeding partner and a viable nest to (re)colonise. These birds may have been seeking out those that remained of their kin, attempting to find a place within a now very constricted lifeworld.

Contemporary accounts of the osprey's plight agree that a combination of the factors I have described above: persecution at home from gamekeepers and naturalist-collectors sportsmen-naturalists, and the killing of migrating birds – rendered breeding extinction for the osprey in Britain by 1916. As Harvie-Brown and MacPherson summarise:

‘supplies of young blood [are] ruthlessly cut off, all along the routes of migration, and no young birds are left to take up the old sites. This is the only way by which it is possible to account for the utter desertion of such old-frequented sites, after the oldest birds are shot or persecuted at the nesting places.’<sup>1246</sup>

The final pair of ospreys, for which there are definitive records of breeding, nested at Loch Loyne, in 1916.<sup>1247</sup> The last birds to breed successfully at Loch an Eilein had done so almost twenty years previous, in 1898. The last sighting of an osprey at the castle, in 1902, correlated a little too neatly for one journalist with the shooting of two migrating birds the following autumn in the New Forest.<sup>1248</sup> Perhaps this was the end met by the ospreys of Loch an Eilein; it was certainly one representative of much of the community's annihilation. I now turn, in the final section, to explore the

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<sup>1245</sup> Described by Cash C (1914) op cit.: 115.

<sup>1246</sup> Harvie-Brown J and MacPherson H (1904) op cit.: 204.

<sup>1247</sup> As noted in Gordon S (25 March 1949) ‘Haunts of the Osprey’ *Country Life* (25 March 1949) [accessed at RSPB Sandy, The Lodge library reprint SP632]: 674-675. It is suggested that one or two pairs possibly remained in the more remote reaches to breed during the intervening years between official extinction and re-colonisation in the 1950s – this a view particularly held by Dennis R (2008) op cit. However, these reports appear to lack ‘definite proof’ according to Baxter E and Rintoul L (1953) op cit.: 332-333.

<sup>1248</sup> ‘The Vanishing Osprey’ (23 January 1912) op cit.

manner in which this extinction lingers, spectrally, at Loch an Eilein as the haunting presence of an extinct osprey lifeworld.

## 4. Ghosts of an osprey extinction

'Haunting has a double meaning: it refers to the occupation of a place by both the dead and by the living. The ghost-like figures that appear [...] can be either dead or alive.'<sup>1249</sup>

In this final section I want to characterise Loch an Eilein as a place haunted, past, present and future, by a lost avian community. I argue that the 'ghosts' of ospreys cling to the empty castle. In various ways these spectres signify their extinction, their hold over our imaginations of osprey geography, and what remains lost of their world despite the return of the species to Scotland. In tracing these hauntings I draw from philosophical and geographical work on the presence of ghosts. Specifically, I develop my understanding of the spectral from Jaques Derrida's meditations on the 'hauntology' of a post-Communist modern condition.<sup>1250</sup> This is modernity constituted through the constant return of ghosts and spectres, with pasts are continuously folded into presents and the making of futures. In a reading of Shakespeare's *Hamlet* and Marx's *The Communist Manifesto*, Derrida's ghost is figured as a 'present-absence' whose coming is marked by the disjointed character of time, the simultaneous co-existence of multiple pasts in the present. In trying to think about how a recognition of past osprey geographies might do ethical work now, and in the future, I also draw from Avery Gordon's notion of the ghost as a transformative presence. The ghost makes that which is lost known and present again. We are drawn into an affective relationship with ghosts as 'transformative recognition' of the worth and lessons of certain pasts.<sup>1251</sup>

In geography, this notion of haunting has been expanded to fathom the ways that past losses and traumas produce disjointed times and spaces. These geographies are characterised by collisions and frictions with other places, elsewhere, times and histories. I take inspiration from Steve Pile's discussion of ghosts amidst the 'phantasmagorias' of contemporary urban life to consider how pasts and presents

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<sup>1249</sup> Pile S (2005) *Real Cities: Modernity, Space and the Phantasmagorias of City Life*: 148.

<sup>1250</sup> Derrida J (2006) op cit.

<sup>1251</sup> Gordon A (2008) *Ghostly Matters: Haunting and the Sociological Imagination*: 8.

bleed together in acts of memorial, myth, materiality and politics. Thus, the ghost brings appreciation that landscapes come to be lived not merely in terms of animating corporeal presence, but also in their profound absences: that which is no longer there.<sup>1252</sup> I argue that the ghosts of an osprey lifeworld at Loch an Eilein proffers 'an alternative flow of history'.<sup>1253</sup> Such a flow might 'unforget' a lived, more-than-human past, having it weigh a little heavier on both the actions of the present and idealised osprey futures.<sup>1254</sup> I turn first to the hauntings of the past, before considering the ways in which the site might host hauntings in the present and future.

### **Spectral returns and afterimages in the osprey story**

Despite a string of successful breeding years, 1897 marked the final time eggs were laid on the castle walls. The final lingering presences of birds here, from 1900 to 1902, were somewhat spectral. A single bird would return and perch alone on the ruin.<sup>1255</sup> Since the bond of the breeding pair was invested in the nest site, and an osprey would migrate separately from its mate, the accounts of these lonely birds evoke an absent partner, killed on migration. For Derrida, the ghost 'begins by coming back' and these lonely ospreys mark the start of a geographical haunting in the wake of extinction.<sup>1256</sup> This incumbent return was the disjoint between a miserable lived reality and the historically cultivated associations with place that drove migratory refrains. The lone bird expressed both a past of successful breeding and its futility in the present.

As the species had declined over the latter decades of the nineteenth century, similarly spectral presences at the frayed edge of a shrinking avian geography were recorded at other sites, including Loch Lomond, Loch Awe and Loch Maree. Rather than encounter a pair of ospreys at an active eyrie, incubating eggs or feeding chicks, 'a stray bird' might be glimpsed, 'hovering in the vicinity of islets where the nests were formerly placed'.<sup>1257</sup> The birds' confidence in a site continued to outlast diminishing annual returns from migration. These ghostly ospreys demonstrated

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<sup>1252</sup> Wylie J (2009) op cit.

<sup>1253</sup> Pile S (2005) op cit.: 160.

<sup>1254</sup> Stewart K (1996) *A Space on the Side of the Road: Cultural Poetics in an "Other" America*: 80.

<sup>1255</sup> Cash C (1914) op cit.: 157.

<sup>1256</sup> Derrida J (2006) op cit.: 11.

<sup>1257</sup> Gray R (1871) op cit.: 18-19.

the enduring more-than-human charm and memory of place.<sup>1258</sup> They also reveal the transmutation of a nesting geography into a more melancholic 'geography of absence' as the community declined, eulogised amongst Britain's lost and vanishing avifauna.<sup>1259</sup>

But more than a haunting, the lingering spectres described are also reminders that extinction precedes the final death. These birds might continue to return – like those at Loch an Eilean – for years. Yet the connections, with kin and place, that ensured their way of life could continue had already been severed. These sites of haunting were testament to their being host to the processes of extinction.<sup>1260</sup> Considering a bird once celebrated for its 'intense love of home and ancestral possessions as the most conservative of human beings', it was truly a testament to the extent of the species' annihilation to see a lone bird no longer able to cling to a site like Loch an Eilein.<sup>1261</sup>

The spectral osprey returned to its former haunt at Loch an Eilein, making small, hopeful additions to the nest. This was a large structure with generations worth of occupancy. It is therefore not surprising to read that for some years after the last bird was seen here the structure endured on the castle walls.<sup>1262</sup> Visitors came to Loch an Eilean, drawn, like these single birds, by the memory of a nest once populated and the Loch's enduring charm as tourist honeypot. In 1907, one tourist called at Loch an Eilein, writing on a postcard of how it was 'very lovely' and 'said to be the only place in Britain where the Osprey breeds – a pair comes each year & generally nests in this ruin of an old loch in the water' (Figure 30).<sup>1263</sup> The associations between place and bird remained potent, driving tourist returns even after those of the birds had ceased. The presence of the ospreys would now endure as a mythical storying of the ruin, just like the association with the Wolf of Badenoch. It was, after all, a site that like other decaying structures proved 'good for

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<sup>1258</sup> Lorimer H (2006) op cit.

<sup>1259</sup> Wylie J (2009) op cit.

<sup>1260</sup> van Dooren T (2014) op cit.

<sup>1261</sup> 'Loch-an-Eilan and its Ospreys' (9 June 1879) op cit.

<sup>1262</sup> Gordon S (1949) op cit.

<sup>1263</sup> 'E.P' (1907) '*Loch-an-Eilan, the Osprey's Nest* [postcard],' in the author's possession.

stories'.<sup>1264</sup> The photographic postcard constituted more an 'afterimage': a performance of the memory of past osprey greatness, and the grim reality of its subsequent eradication.<sup>1265</sup> The photograph – 'a thin slice of space as well as time' – garners significance through its connection to a spectral osprey geography.<sup>1266</sup> The nest itself, cut off from the labour of ospreys, was only a temporary archive of their presence there. Apart from a living osprey community, the eyrie was no longer a lively, yearly assemblage but a 'dead' object.<sup>1267</sup> Eventually the winter storms took their toll and its remains were blown away.

Yet, the ghost of the osprey would be felt here again, nearly five decades later. George Waterston, variously accompanied by RSPB council members, made his visits to Speyside in the summer of 1955 to ascertain the truth of reports that the birds had returned. During these visits, and in the tentative plans that the Society, the NC and the Grants made over their evening 'councils of war' at the Doune, the preferences of ospreys past were inferred onto birds not-yet-returned.<sup>1268</sup> These early plans, based in an assumption that the ospreys might return to Loch an Eilein, were rejected the following year when attentions were drawn to a large tree-nest on the marshes surrounding Loch Garten (see Chapter 3). Moreover, Waterston's early discussions appreciate that the castle was no longer strictly 'empty' or available for re-colonisation. A colony of jackdaws (*Corvus monedula*) now resided there and would jealously guard their roost against aquiline incursions. The castle ruins had become, ecologically, a niche closed to the osprey that would have to be re-opened for a chance of their nesting here again.

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<sup>1264</sup> MacDonald F (2014) op cit.: 480.

<sup>1265</sup> Swanton D (2012) 'Afterimages of Steel: Dortmund' *Space and Culture* 15(4): 269.

<sup>1266</sup> Sontag S (1979) op cit.: 22.

<sup>1267</sup> Ingold T (2008) op cit.: 213.

<sup>1268</sup> See Chapter 3; Waterston G to Conder P 'Ospreys at Loch Morlich' (2 July 1955) op cit.

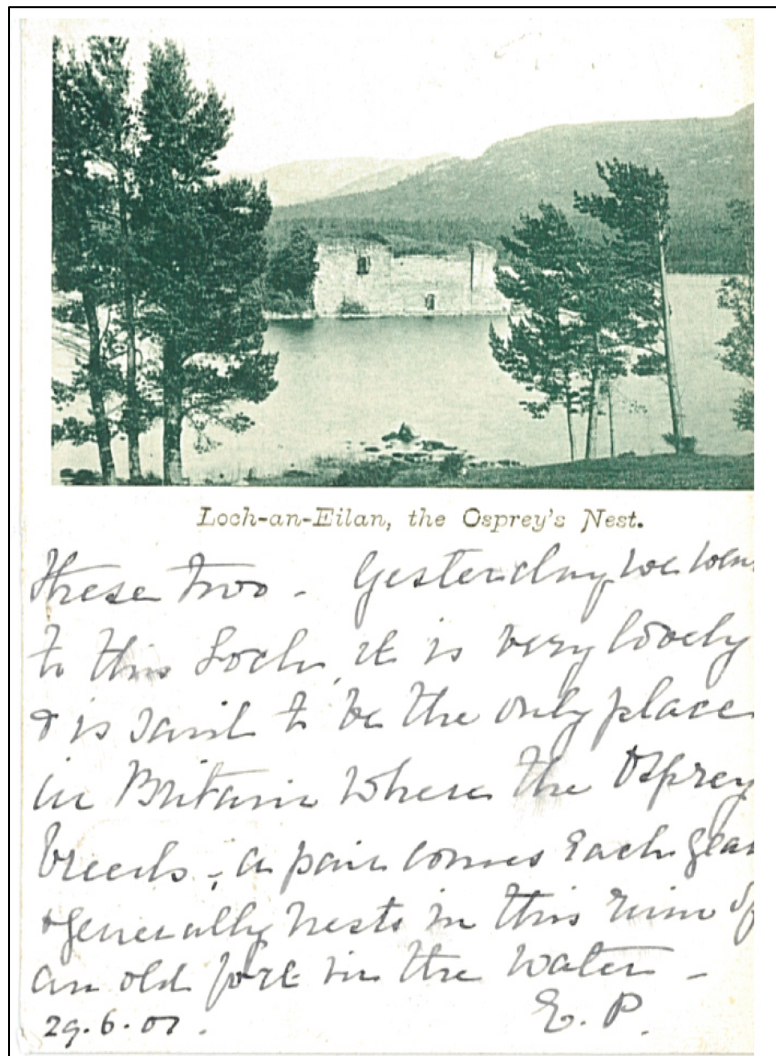


Figure 30: A postcard of 'Loch-an-Eilan [sic.], the Osprey's Nest', sent 29 June 1907. In the author's possession.

Despite the shift in focus away from Loch an Eilein and onto Loch Garten in the unfolding story of Operation Osprey, the castle's past inhabitants appeared occasionally to haunt the business of osprey conservation on Speyside. Whilst the RSPB worked to protect and show a nest just ten miles away, Loch an Eilein remained a tourist attraction, stewarded by the NC as part of the Cairngorms NNR, with an established ranger service and information centre, until the site was taken under the management of Rothiemurchus estate in 1985.<sup>1269</sup> The association of ospreys with the castle remained in folk-memory of the site, to be communicated to

<sup>1269</sup> Lambert R (1999) op cit.

the RSPB by those whose interest in the species was spurred following a visit to the Garten observation post.<sup>1270</sup>

In one expression of such sentiment, a member of the public wrote to the Society in January 1969 to suggest that, given the osprey population was growing and spreading further afield, whether 'it would be a good idea to fix an artificial nest either on the ruins or [...] on the island of Loch-an-Eilean where they bred for so many years?'<sup>1271</sup> The lively history of ospreys at the site proposed to the imagination ways in which they might still be accommodated for. In responding, the RSPB'S head of species protection thanked the author for their suggestion, but noted that 'other pairs of Ospreys have ample natural sites to choose from'. Whilst the time might come when nests would be erected, at present the RSPB would prefer 'to let events take their course and only introduce artificial measure when these become absolutely necessary'.<sup>1272</sup> A few years later, of course, the Society *would* begin to pursue the construction of nests (see Chapter 6), but an artificial nest structure was never constructed at Loch an Eilean. The suggestion, however, demonstrates a further way in which the ghosts of ospreys past (and their possible futures) clung to the ruined stonework.

Through the decades that followed the osprey's extinction and banishment from Loch an Eilein, ospreys continued to return here as spectres in encounters with and the imaginations of place. But the story of Operation Osprey was also one of triumph: ospreys had *returned* to a 'native land' that without their presence was itself deficient.<sup>1273</sup> The population's expansion soon bore the promise of future abundance. Within the expansion it seems to have mattered little that ospreys had not returned to Loch an Eilein. I now turn to discuss the ways in which a haunting

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<sup>1270</sup> Letter from R Oswald-Blyth, Kingswood, Surrey to George Waterston (29 December 1968) Writing to inform Waterston of an anecdotal record from his father of breeding at Loch an Eilein during the 1880s – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>1271</sup> DW Elliot, Stagsden, Bedford to George Waterston (1 January 1969) 'A Suggestion' Proposing the erection of an artificial nest at Loch an Eilein and the provision of osprey viewing facilities there – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>1272</sup> Letter from Mike Everett to DW Elliot (7 January 1969) *op cit*.

<sup>1273</sup> See Lambert R (2011) *op cit*; Toogood M (1995) 'Representing Ecology and Highland Tradition' *Area* 27(2): 102-109.



might be manifest in the present (and future) to stay with the trouble of extinction, conservation and genetic essentialism in a way that makes such absence matter.

### **Contemporary hauntings and ‘a signifier for the dead’**

Today, the surroundings of Loch an Eilein host a visitor centre and shop. Inside there is a small display, partially obscured by merchandise, which details the history of the site across several interpretive panels. The absent ospreys are conjured here as ‘the last ‘kings of the castle’’ (Figure 31). It is lamented the island was not ‘a place of safety’ for the ospreys, and that over the course of the re-colonisation these birds ‘have not reclaimed *their* castle’ (my emphasis). However, their return to Rothiemurchus is celebrated, with ospreys since the 1990s regularly taking advantage of the estate fisheries at Inverdrurie, which, in turn, have become a tourist destination in their own right.<sup>1274</sup> There is a simultaneous presence/absence of ospreys on Speyside: residence at new nest sites occurs alongside the emptiness of older places, constituting a ‘geography out of joint’ that I want to examine here.<sup>1275</sup> I argue that those returning ospreys, fishing fewer than four kilometres flight from the empty castle, frame an enduring loss of osprey culture amidst the subsequent proliferation of alternative forms of osprey life in its place. Today, Speyside reportedly hosts the highest density of nesting osprey pairs in the country.<sup>1276</sup> And yet, all the while the castle remains empty. This absence haunts the ‘return of the osprey’ discussed across the thesis with unanswered ethical questions concerning extinction and the losses entailed.

Conceptualising extinction as the loss of a situated community and its constitutive relationships with ecology and place, the absence of ospreys at Loch an Eilein proposes more than an exemplar of Jackdaw territoriality. The other castles where the birds once nested, as well as the rocky outcrops of Sutherland, have neither been re-colonised.<sup>1277</sup> This, then, comprises a much broader geography of absence constituting the ‘hauntology’ of contemporary osprey life: ospreys dwell in a landscape both as lively bodies, across hundreds of recorded nest sites, *and* spectres,

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<sup>1274</sup> Lambert R (1999) op cit.: 43.

<sup>1275</sup> Pile S (2005) op cit.: 133.

<sup>1276</sup> Field notes from a visit to Loch Garten and discussion with RSPB wardens, May 2016.

<sup>1277</sup> See Dennis R (1983) ‘Population Studies and Conservation of Ospreys in Scotland,’ in Bird D (ed) *Biology and Management of Bald Eagles and Ospreys* (Harpell Press; Montreal): 208; Thom V (1987) *Birds in Scotland*: 146.

in the associations with these former haunts that endure through memory and the Gaelic place names that still appear on OS maps.<sup>1278</sup> The decline of the osprey in the nineteenth century saw the vanishing of an accompanying inter- and intra-generationally wrought nesting culture, characteristic of this community and remaining so of others elsewhere.<sup>1279</sup> Today's ospreys, then, are *qualitatively different* to those of the past in their relationship to the environment.

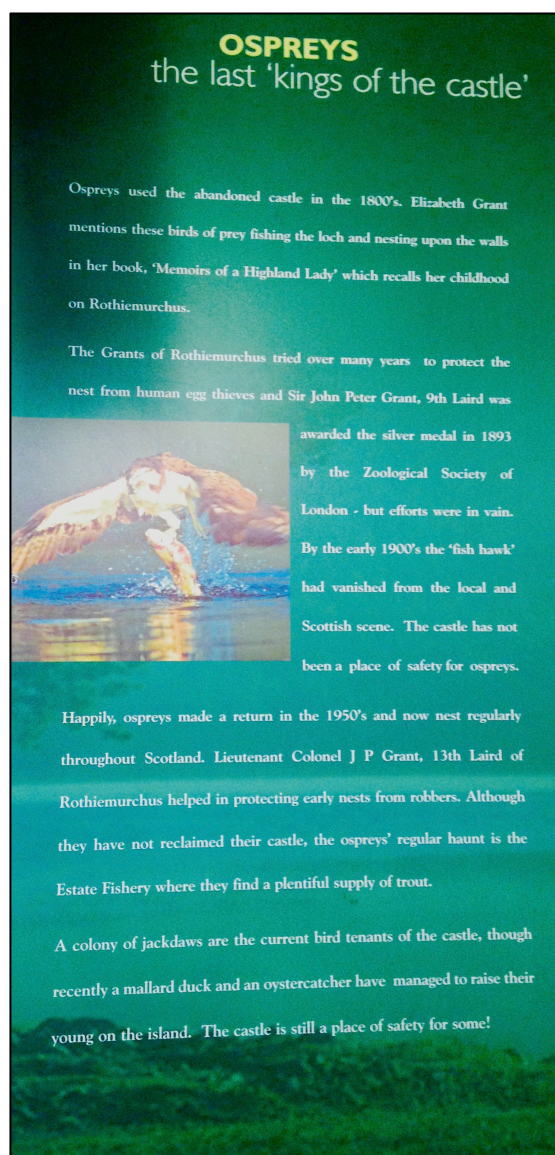
Over previous chapters this thesis has sketched several trajectories along which contemporary osprey life has unfolded, constituting its own unique 'flight way' and differentiated in its historical contingency from the community that came before. This emergent community finds an origin with migrating Scandinavian birds, drawn to re-colonise the pinewoods of Speyside because of the resonance between this habitat and their fledging grounds across the North Sea. These birds have proven to be almost exclusively tree nesting; albeit theirs is a spatial vocabulary expanding with the on-going, experimental involvements of conservationists (Chapter 6). Such practices, along with the proliferation of visitor centres, ringing, cameras, and incidences of disturbance, together produce the more open and tolerant (of human presence) osprey community that reflects Dennis' claims of a 'cultural shift'.<sup>1280</sup>

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<sup>1278</sup> Ferguson C (1885) 'The Gaelic Names of Birds, Part 1' *Transactions of the Gaelic Society of Inverness* **11**: 249-250; MacKenzie O (2012) op cit.: 130; for a similar discussion relating to the Sea Eagle (*Haliaeetus albicilla*), see Love J (1983) op cit.

<sup>1279</sup> See the discussion of Mediterranean cliff and rock nesting in Cramp S et al (1980) op cit.; Dennis R (2008) op cit.

<sup>1280</sup> Dennis R (2008) op cit.: 130.



*"Ospreys used the abandoned castle in the 1800's. Elizabeth Grant mentions these birds of prey fishing the loch and nesting upon the walls in her book, 'Memoirs of a Highland Lady' which recalls her childhood on Rothiemurchus.*

*The Grants of Rothiemurchus tried over many years to protect the nest from human egg thieves and Sir John Peter Grant, 9th Laird, was awarded the silver medal in 1893 by the Zoological Society of London - but efforts were in vain. By the early 1900's the 'fish hawk' had vanished from the local and Scottish scene. The castle has not been a place of safety for ospreys.*

*Happily, ospreys made a return in the 1950's and now nest regularly throughout Scotland. Lieutenant Colonel JP Grant, 13th Laird of Rothiemurchus helped in protecting early nests from robbers. Although they have not reclaimed their castle, the ospreys' regular haunt is the Estate Fishery here they find a plentiful supply of trout."*

**Figure 31: Photograph of the interpretive panel 'Ospreys: the last 'kings of the castle' on display at the Loch an Eilein visitor centre (with transcript of text), October 2015. Taken by the author.**

The rock and ruin sites that remain are therefore places with a 'shadowy density': thick with the traumas, violence and loss inflicted by sportsmen, naturalists and skyward guns in counties distant.<sup>1281</sup> For Loch an Eilein, the castle exists, in the phraseology of Donna Haraway, as 'a signifier for the dead.'<sup>1282</sup> This concept, developed from the symbiogenetic thought of Lynne Marguis and Dorion Sagan

<sup>1281</sup> Pile S (2005) op cit.: 142.

<sup>1282</sup> Haraway D (24 March 2014) 'SF: String Figures, Multispecies Muddles, Staying with the Trouble' lecture given at the University of Alberta Faculty Club, Department of Art & Design [Accessed on 20/3/2015 at: <http://www.youtube.com/watch?v=Z1uTVnhIHS8>].

and recent work in extinction studies, refers to an organisms left behind in the wake of extinction events that destroy one half of a symbiotic relationship, or a block of becoming.<sup>1283</sup> Thus, the orchid pollinated by the insect, should the latter go extinct, will still bear the markings and scents that once attracted its partner and which together come to constitute the spectral biological presence of lost beings. If life and ecology are alive with the lived and affective as much as the genetic, then a suite of aesthetic and 'collateral extinctions' will follow any species' departure.<sup>1284</sup> This is the more holistic cost of extinction: a loss of affecting and affected ecological selves, a subtraction of something of the diversity in ways by which the world can be sensed, lived and known. This is my basis for proposing a contemporary haunting at Loch an Eilein. The ghosts of birds past and their ways of living fill the ruin.

I want to suggest, following Avery Gordon, that such osprey hauntings might be transformative: a means to 'stay with the trouble' of extinction as a process that involves more than a loss of genetic material. Increasingly contemporary conservation practice is configured towards the biopolitical salvaging of genetic species-being. As Beirmann and Mansfield note, 'the crisis of biodiversity loss does not refer to individual organisms, but to gene pools, populations, species, and ecosystems.'<sup>1285</sup> Attempts to know and categorise the natural world reflect a similarly 'molecular turn'.<sup>1286</sup> Whilst scholars have long acknowledged the increasingly social (by which I mean connected, mediated, and ultimately involved) character of biological processes, enrolled in and transformed by human interests, it is also the case that such compositional genetic work opens up the possibility of 'genetic rescue': the management of animal populations in captivity according to the good of the collective gene pool, along with an ability to 'backbreed' and thereby 're-wild' ecosystems with previously eradicated keystone species.<sup>1287</sup>

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<sup>1283</sup> Margulis L and Sagan D (2002) op cit.

<sup>1284</sup> See Perley B (2012) 'Last Words, Final Thoughts: Collateral Extinctions in Maliseet Language Death' in Sodikoff G (ed) *The Anthropology of Extinction: Essays on Culture and Species Death* (Indiana University Press; Bloomington IN & Indianapolis): 128.

<sup>1285</sup> Biermann C and Mansfield B (2014) op cit.: 263.

<sup>1286</sup> Hennessy E (2015) 'The Molecular Turn in Conservation: Genetics, Pristine Nature, and the Rediscovery of an Extinct Species of Galapagos Giant Tortoise' *Annals of the Association of American Geographers* **105**(1): 51; see also Waterton C et al (2013) op cit.

<sup>1287</sup> Heatherington T (2012) op cit.: 42; see also the discussion of Lorimer J and Driessen C (2013) op cit.

The ever-growing loss of species in the contemporary era characterises a ‘sixth great extinction’, forcing us to pause, take stock and ask ‘who exactly ‘we’ are, what ‘we’ are doing’.<sup>1288</sup> Humans must increasingly consider themselves the authors of environmental impacts that long exceed their lifespans, and even those of their progeny. Simultaneously, such ethical reflection is countered by a transcendent genetic ontology, amplified by the affects of extinction’s immanence. Fantasies blossom of techno-scientifically driven environmental redemption in which past environmental wrongs are made reversible through technocratic innovation.<sup>1289</sup> In the first section of this chapter I characterised castle nesting as a ‘contact language’, and Garrett describes how the loss of such a language is often disregarded or given little attention in the concerns of anthropologists tracing language extinction.<sup>1290</sup> There is a curious parallel with Lestel’s assertion that behavioural ecologists have traditionally shown little interest in studying those behaviours emerging through animals’ interactions with humans, such as the domestic or feral, preferring instead to focus upon ‘authentic’ behaviours in the wild.<sup>1291</sup> These concerns about authenticity reflect concerns in conservation over the preservation of species’ genetic purity. Such debates can be seen, for example, at the forefront of projects seeking to protect the wildcat (*Felix silvestris*) in Scotland.<sup>1292</sup> The empty castle, enabling the glimpse of a lost osprey past amidst the geographies of the species’ contemporary return, offers pause: can a species ever really ‘come back’ from extinction? What aspects of its being in place might remain lost?

In the conservation praxis of managing genetic populations, and where an individual can be sacrificed to ensure the survival of viable gene pool, there can seem little room to consider the *more-than-genetic* aspects of animal life or the involved emergence of historically specific ways of living in place.<sup>1293</sup> Such is the collectivisation of differing spatial and temporal communities under the rubric of

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<sup>1288</sup> Ginn F *et al* (2014) *op cit.*: 117.

<sup>1289</sup> Heatherington T (2012) *op cit.*; Heise U (2003) ‘From Extinction to Electronics: Dead Frogs, Live Dinosaurs, and Electric Sheep’ in Wolfe C (ed) *Zoontologies: The Question of the Animal* (University of Minnesota Press; Minneapolis): 59-81.

<sup>1290</sup> Garrett P (2012) *op cit.*

<sup>1291</sup> Lestel D (2002) *op cit.*: 51.

<sup>1292</sup> Freidricksen A (2015) *op cit.*

<sup>1293</sup> In particular here I am thinking of the killing of Marius the giraffe at Copenhagen Zoo in early 2014, and the account given by Braverman I (2015) *op cit.*: 59-61.

‘species thinking’.<sup>1294</sup> One witness of this kind of thinking towards the osprey as early as 1949. In an account of the community’s former Scottish haunts, naturalist Seton Gordon concludes that the reader need not fear for the species since, despite being extinct in Britain, there is ‘no danger of this fine bird disappearing from the face of the earth’.<sup>1295</sup> This sentiment chimes with the genetic essentialism of contemporary species thinking, ignoring the vital and assembled ecological context in which species emerge in favour of the continuation of certain genetic assemblages. Instead, I argue that if we are to talk of rewilding, genetic rescue and de-extinction that the central question should be less one akin to ‘can we restore the animals of the past’ than ‘which past do we really want, and why?’<sup>1296</sup>

It is amidst these debates, then, that for me the ruined castle at Loch an Eilein offers the promise of a transformative haunting. Its emptiness juxtaposed against a landscape of burgeoning osprey abundances is a reminder that some aspects of species-community being transcend the genetic, and it calls to those who visit to care about that loss. In her work on climate change and biodiversity decline, Ashlee Cunsolo-Wilcox describes her attempt at environmental ‘grief work’.<sup>1297</sup> Drawing on the writings of Butler and Derrida, she reframes grief less as a process of mourning a quantifiable loss and its acceptance than a more radical melancholia. Following Freud, grief work in this form concerns a less tangible loss, a diminishing of the self, that cannot be fully grasped and therefore neither can it be overcome through a process of internalised acceptance.<sup>1298</sup> It is in this sense that Derrida poses the loss of other beings as a loss of possible becomings.<sup>1299</sup> Developing the arguments of Judith Butler’s thesis regarding ‘grievable bodies,’ Wilcox positions grief work as a means of affording nonhuman bodies ethical worth.<sup>1300</sup> To grieve for a loss is to recognise that such loss matters. In this way, I argue that engaging with the ghosts of Loch an

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<sup>1294</sup> van Dooren (2014) op cit.: 116.

<sup>1295</sup> Gordon S (25 March 1949) ‘Haunts of the Osprey’ op cit.: 675.

<sup>1296</sup> Whitely P (2012) ‘Epilogue: Prolegomenon for a new totemism’ in Sodikoff G (ed) *The Anthropology of Extinction: Essays on Culture and Species Death* (Indiana University Press; Bloomington IN & Indianapolis): 225.

<sup>1297</sup> Cunsolo-Wilcox A (2012) op cit.

<sup>1298</sup> See Freud S (1917) ‘Mourning and Melancholia’ in (1964) *The Standard Edition of the Complete Psychological Works of Sigmund Freud, Volume XIV (1914-1916): On the History of the Psycho-Analytic Movement, Papers on Metapsychology and Other Works* (Hogarth Press; London): 237-258; and discussion of Freud’s ideas in Pile S (2005) op cit.

<sup>1299</sup> Whale H and Ginn F (forthcoming) op cit.

<sup>1300</sup> Butler J (2009) op cit.

Eilein as a melancholic presence to be grieved for might offer a means of recognising that such nonhuman aspects of the world matter ethically, and therefore that their loss matters. The challenge at Loch an Eilein is 'to tell stories about the dead and dying that draw them into relation with the living.'<sup>1301</sup> It is in this vein that Derrida proposes a more permanent mode of grieving, of continual conversation with and about those who have passed such that their loss might continue to matter.<sup>1302</sup>

At a site like Loch an Eilein, the material signifier for a dead osprey lifeworld that remains empty despite triumphant narratives of a species' return, there is the possibility for this kind of grief work. Likewise, the geography sketched between the rocky outcrops of Sutherland, continuing to display 'no evidence of nesting in the old traditional haunts in the Western Highlands' on the part of ospreys, forms a broader landscape for such engagement.<sup>1303</sup> Could the castle offer a space for what Kathleen Stewart terms 'an unforgetting' of osprey nature? In her own work, Stewart uses places of everyday and folk pasts in the American mid-West to carve out 'a space at the side of the road' of universalising historical narratives of progress or decline. She makes room, instead, for alternative tellings and the prompting different questions or stories about what has gone before and why it matters. An 'unforgetting' is not the same as a remembering; it is 'a scanning re-attention' that emphasises alterity, difference and the possibility of telling alternative stories, histories and experiences from some of the same fragments, archives and places.<sup>1304</sup> I finish with the acknowledgement that tracing this ruin's story initiates a gathering of fragments of past osprey existence to propose an alternative history. This is a history that rejects the triumphant teleology of both modern progress and restorative conservation in favour of something more blurred, situated and ghostly.

## 5. Knotty Questions

Over the course of this chapter I have cast a glance backwards to what came before the return of the osprey. In doing so I have tried to sketch the lived contours of a

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<sup>1301</sup> van Dooren T (2014) op cit.: 126.

<sup>1302</sup> See Derrida J, Brault P-A and Naas M (1996) 'By Force of Mourning' *Critical Inquiry* 22(2): 171-192.

<sup>1303</sup> Dennis R (1983) op cit.: 208.

<sup>1304</sup> Stewart K (1996) op cit.: 78-88.

once-prior (and still-parallel) osprey lifeworld, along with the processes that rendered it extinct. The ospreys of the nineteenth century display a tangible material culture in the accounts that survive of this world, and I have speculated that the inclusion of castles into this 'spatial vocabulary' reflects the past involvements of birds and the abandoned structures of people. I consider these relationships as generative of something new, a 'contact language' of sorts. As I have argued, this material culture was expressed by a community of birds – conjoined and sustained in the circulation and inheritance of sites and geographical knowledge. This was a situated and contingent trajectory of becoming, distinct from that of ospreys in the present. The presence of birds at Loch an Eilein was an expression of this community.

The osprey remained in the more far-flung and isolated places of Britain by the nineteenth century, reflecting a long history of persecution in the south. However, as I have shown, over the course of the hundred years or so that followed, this community was beset from a number of sources by violence: most notably from a particular culture of cabinet naturalism and the management of landscapes for highland sport. Despite attempts at protecting the birds at certain sites, including Loch an Eilein, the community continued to unravel, subject to violence. Birds fell through the cracks between the legal geographies of avian protection and the lived geographies of avian existence. By the end of the nineteenth century, the species was all but eradicated in Britain.

And yet, the osprey of the nineteenth century remains in the present as a ghostly entity, haunting and transforming a former geography of nesting into one of absence that invites curiosity and melancholy. These hauntings present themselves in the reappearance of lonely figures, the enduring associations between ospreys and Loch an Eilein, and the contemporary disjoint between the presence of birds in Rothiemurchus and their absence from the castle. I have tried to suggest that attention to the osprey stories embedded within these ruins might prove transformative, prompting the ethical valuing of more-than-genetic and cultural aspects of animal life emergent through active histories of dwelling rather than being predetermined by biological factors.



This chapter ends, then, not with a set of conclusions but with the prompting of a series of awkward provocations that arise with attempt at problematising the 'return of the osprey' sketched out over the preceding thesis. Following Donna Haraway and Kathleen Stewart's lead, an encounter with the ghostly ospreys of Loch an Eilein offers a way of staying with the trouble of living not just with extinction but *after* that extinction (and its apparent reversal), and the 'knotty questions' that such an example raises.<sup>1305</sup>

The first such question is borrowed from Owain Jones: 'can the loss of place constitute a challenge to successful self-making?'<sup>1306</sup> What modes of osprey being are not possible now that these birds exist outwith a history of involvement with such places? In turn, we might also ask what the loss of certain birds means for the success of place-making, faced by this deeply reverberating 'species of death'. Undoubtedly, both the human and avian experience of landscape at a site like Loch an Eilein has been transformed.<sup>1307</sup> Secondly, what does it actually *mean* to stay with the trouble of the osprey story? I have tried to suggest that it might mean looking more reflexively at a now iconic example of conservation success, taking into account the changed conditions for avian experience, as well as the admission that some things cannot be restored, re-wilded or re-found. Relatedly and thirdly, what is the ethical worth of these osprey – indeed all nonhuman – pasts, communities, or cultures? This is to invoke Kathryn Yusoff's question: 'What does it mean to lose a species or a population?'<sup>1308</sup> There is of course a danger, as Haraway observes, that in mourning the past we forget the present and possibilities of the future, both lively and valuable too.<sup>1309</sup> But the question of what the loss of *a way of life* – rather than *a life* – means whilst a 'species' endures, still remains.<sup>1310</sup> So too does the question of how we might connect with this loss, as this chapter has sought to do.

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<sup>1305</sup> Garrett P (2012) op cit.: 150.

<sup>1306</sup> Jones O (2015) "'Not Promising a Landfall...': An Autotopographical Account of Loss of Place, Memory and Landscape' *Environmental Humanities* 6: 5.

<sup>1307</sup> Smith M (2013) op cit.: 22.

<sup>1308</sup> Yusoff K (2012) op cit.: 579.

<sup>1309</sup> Haraway D (2014) op cit.

<sup>1310</sup> Species in the Darwinian sense as both 'principal unit of evolution' and 'concrete phenomenon of nature'; see for example Mayr E (1996) 'What Is a Species, and What Is Not?' *Philosophy of Science* 63(2): 262-277.



**Figure 32: Photograph of the empty castle: ruins at Loch an Eilein as seen from the western shore, July 2014. Taken by the author.**

In July 2014 I visited Loch an Eilein on a gloriously sunny summer's day (Figure 32). It was 30 degrees, there was no wind, and cyclists, hill-walkers and ramblers were stripping off at points around the loch to bathe in its cool and inviting waters. As I now imagine George Waterston might have done, I found a spot on the shore to gaze out at the ruin. I watched others swim out to it, climbing on and over the residual walls of the empty castle. Such displays bothered me. For, to whom does this osprey history matter? Paying attention to ghosts demands a certain way of seeing. Ghosts are not coherent but multiple: they appear differently in different places, times and in the presence of different onlookers.<sup>1311</sup> If I see ghosts when I visit Loch an Eilein, that does not mean others do too. The seeing of these ghosts could mean remaining blind to certain wonders in the present. The difficulty, then, is how we tell stories of place that raise such knotty questions and awkward spirits to do the important, transformative and ethical work required to build more positive futures for ospreys, humans and others.

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<sup>1311</sup> Derrida J (2006) op cit.; Pile S (2005) op cit.



# Chapter 8

## Conclusion

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### 1. Osprey Involvements

When George Waterston passed away in September 1980, eight years after he had retired as the RSPB's Scottish Secretary in 1972, the osprey community that he had helped establish was continuing to grow.<sup>1312</sup> That summer had seen the eyrie at Loch Garten host a new pair of birds, albeit one that had ousted the previous residents in the spring. They successfully reared two chicks. The same year, the RSPB Highland Office would report a population of 25 known pairs (20 laying eggs) that fledged over 40 young between them.<sup>1313</sup> The protection begun at Loch Garten 1957 had heralded the beginnings of a unique and contingent form of osprey life in Scotland, inextricably involved in its more-than-human geographies.

Today, there are thought to be over 300 pairs of ospreys in Britain, the majority in Scotland. A 2006 study by the RSPB estimated that nearly 300,000 members of the public visit the UK's now nine osprey-viewing sites annually. Those drawn to such places by the country's 'top bird-tourism species' contributed around £3.5 million a year to surrounding economies, with around £1.9 million of that spend in 2004-2005 recorded on Speyside.<sup>1314</sup> A more recent study by SNH in 2010 proposed similar (if slightly lower) figures.<sup>1315</sup> The Garten nest endures, held together by the bolts and bracings installed during the 1986 repairs, and with the addition since 1989 of variously improved CCTV set-ups. The current tenants of the eyrie are a pair of birds named 'EJ' (for the markings on her leg-ring) and 'Odin' (for his possible Scandinavian origins). Resident together since 2009 (EJ has nested here since 2003),

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<sup>1312</sup> Conder P (1980) 'Obituary: George Watertson' *Birds* 8(4) [accessed at RSPB Sandy, The Lodge library]: 73.

<sup>1313</sup> Figures taken from Dennis R (31 December 1982) 'Osprey Newsletter No.9', op cit.: 3.

<sup>1314</sup> Dickie I, Hughes J and Esteban A (2006) 'Watched like never before: the local economic benefits of spectacular bird species' A Report by the RSPB; The Lodge, Sandy [Accessed at [https://rspb.org.uk/Images/watchedlikeneverbefore\\_tcm9-133081.pdf](https://rspb.org.uk/Images/watchedlikeneverbefore_tcm9-133081.pdf) on 15/4/13]: 15-17.

<sup>1315</sup> Bryden D, Westbrook S, Burns B, Taylor W, and Anderson S (2010) *Assessing the economic impacts of nature based tourism in Scotland*. Scottish Natural Heritage Commissioned Report No 398 [Accessed on 15/4/13 at <http://www.snh.gov.uk/docs/B726802.pdf>]: 29.

they are at least the thirteenth permutation of birds to nest on display to the public at Loch Garten at the site since 1959.<sup>1316</sup>



Figure 33: 'Welcome to the Loch Garten Osprey Centre' Photograph of the entrance to the modern observation post, May 2016. Taken by the author.

In writing a history of this project, I have explored five 'sites' (as intensive points of relation) that make up different threads of human-osprey involvement. The preceding chapters have sought to animate the multiplicity of lived osprey geographies on Speyside, and as constituted through their material and situated relations with humans, through small stories of these birds' conservation. I have articulated emergent figures of osprey *difference*: the contingencies, conditions and capacities that come to shape the possibilities of avian life amidst the spaces of their production, composition and relations with humans. In this concluding chapter I reflect on this approach of 'involvement' as the basis from which to investigate the

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<sup>1316</sup> Data extrapolated from Dennis R (2008) op cit.: 23.

Scottish osprey re-colonisation across this thesis. In particular, I want to reflect on what an involved understanding might contribute to both animal geography and an inter-disciplinary project of 'animal history' more broadly.

## **2. Reflections on Involvement**

Part of my argument has been to demonstrate how an involved approach provides a more expansive appreciation of osprey life – conceptually, empirically and ethically. The stories I have told across the thesis have explored the practices of raptor biopolitics and their inflection in the face of material uncertainty; the negotiation of relationships of proximity between humans and nonhumans so that knowledge can be produced; the means of encountering animals politely, in ways that open up rather than delimit *a priori* what they are capable of; and the possibilities for thinking in more-than-representational, non-deterministic and non-linear ways about the associations between birds and geography. These arguments have been driven by examining the involvements between ospreys and other forms of agency (see Chapter 2): how 'dwelling' is a relational business; how the becoming and formation of subjects and species occurs within and across 'blocks' of relations; and how beings come to be bound up with each other in co-constitutive and responsive ways through zones of contact and sites of attachment. At the heart of this project has been an investigation of the relationship between the historical and geographical conditions within which osprey life has flourished on its return from extinction in Scotland, and the possibilities for osprey nature that emerge from such conditions.

Much of what I have written has been in response to Ingold's call for a history of human-animal relations that takes as a starting point human-animal relationality.<sup>1317</sup> Through the practices of securing ospreys against acute and molecular threats, I have shown how the capacities for osprey agency, the possibilities for osprey life, and even the substance of osprey biologies all have locatable histories and geographies, conditional upon involvements *in* the world. Attention to the observant practices and negotiated proximities of hide work at the Garten suggest how a more open consideration of avian agency can provide a richer understanding of what appear as mundane encounters. The possibilities inherent in nest-building

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<sup>1317</sup> See Ingold T (2000) op cit.: 61.

practices gesture both towards the shared stake that humans and ospreys have in future worlds, as well as casting a glance backward to ask what value we should place on the worlds that we have denied from existence.

### **Involving animals in geography**

Across this thesis, I have emphasised the sites of involvement to ensure that both the geographical conditions for animal lives, and the assembled nature of animals' own geographies, remains central. I have aligned this project with recent calls to expand animal geography beyond a concern with merely the 'shadowy figures' of actual animals.<sup>1318</sup> Mine is an animal geography that – to follow Deleuze and Guattari – seeks to understand an animals' geography through an exploration of its spatial affects.<sup>1319</sup> I have sought to flesh out and thicken the figures of ospreys at the heart of this thesis, doing so with reference to both scientific literature and the experiences of those who have worked with the birds, past and present. Such an understanding offers a position from which to begin to grapple with the capacities of these birds, and what they might become capable of in and through their relations with humans and other agencies. Likewise, humans and other entities become capable of new expressions or take new forms in relation to different ospreys at different times and places.

The ospreys at the heart of this thesis are emphasised as material, lively beings that take up, live in and perceive their surroundings in a manner that is historicised and contextual. In particular, my conceptualisation of nesting geographies demonstrates what this kind of animal geography can do. It is an attempt to theorise across the species divide between human and bird in a way that takes seriously animal spatiality within the empirical material, using it as the basis for an ethical argument about conservationists' impacts and involvements. I have tried to come at animal geography in a manner that champions alternative and experimental readings of existing archival sources as the basis for a more interesting and rich scholarly engagement with the animal in history.<sup>1320</sup> I have sought to show that a creative encounter between theory and empirical material is possible. This 'critical anthropomorphism' recognises that humans and animals exist as bodies-in-the-

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<sup>1318</sup> See Philo C (2005) op cit.: 829.

<sup>1319</sup> Deleuze G and Guattari F (2013) op cit.: 299.

<sup>1320</sup> As proposed in the work of Fudge E (2013) op cit.: 17.

world and that this basis gives us certain license to propose or interpret the affects of our surroundings with a creaturely sensibility, expanding the possibilities for critical examination.<sup>1321</sup>

I have argued that all life – osprey and human – is better understood and explained as the result of inter- or intra- activity.<sup>1322</sup> No entity can be encountered at the site of its dwelling, or amidst its relations with other beings, without the recognition that agency is itself a bundling together, emergent in the process of longitudinal composition (its history) and the lateral encounters that actualise capacities in the present (its relations and its geography).<sup>1323</sup> No actor realises its bodily capabilities outside of relations with its environment, and an actor's 'personhood' is inseparable from its lived, 'naturalcultural legacy'.<sup>1324</sup> A significant contribution of this thesis has therefore been to write an animal geography capable of holding onto the 'beastliness' of its subjects. In doing this, I have maintained an 'antipathy for ontological hygiene' pursuing arguments regarding the management, protection and fostering of life that vital theory makes possible.<sup>1325</sup>

### **Speculating on historical animal life**

This thesis has inevitably been concerned with the project of animal history and, indeed, the possibility of taking animals seriously as historical actors. By taking a cue from the historicity of biological relations themselves, I have hoped to demonstrate how a thicker, more *lived* historical animal geography is possible if one attends to the materiality of geographies and their consequences for animal subjectivities. Rather than strive for an objective or detached account of historical osprey life in a manner that might list the arrivals, breeding successes and numbers of the birds along with their distributions – an 'osprey biogeography' in the traditional sense – I have seen it as the duty of the historical animal scholar to 'speculate' on the past conditions and affects of nonhuman flourishing.<sup>1326</sup> I considered what changing historical conditions at Loch Garten and elsewhere – the site being opened to visitors, the presence of wardens, the impacts of pesticides and

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<sup>1321</sup> Greenhough B and Roe E (2011) op cit.: 55.

<sup>1322</sup> Barad K (2003) op cit.

<sup>1323</sup> See Deleuze G and Guattari F (2013) op cit.: 299-300; also Johnston E (2015) op cit.

<sup>1324</sup> Haraway D (2008) op cit.: 16.

<sup>1325</sup> Ginn F (2016) op cit.: 5.

<sup>1326</sup> Following, as I have described previously, the argument of Despret V (2013b) op cit.



the construction of new nesting spaces – might mean for osprey experiences of place. It has certainly been a partial attempt but I hope to have conveyed, amidst the empirical prose, some sense of the birds *as birds*.

To attend to the transformations in the osprey's material environment, or the ways in which ospreys themselves transform the environment, is to ground a historical discussion of osprey life in historically contingent and specified geographies. It is also to recognise that transformations to that environment – the siting of a hide, the release of toxic chemicals or the construction of an artificial nests – have *influence* upon the birds and their possibilities for action. I have foregrounded the sites of osprey becoming and formation as material conglomerations and as producers of different, more-than-human subjects that 'learn to be affected' by different things in their historical world.<sup>1327</sup> The specificity of historical osprey experience that I trace emphasises that here are no single or right osprey 'natures', rather a suite of 'cacophonous agencies' that proliferate different modes of avian being.<sup>1328</sup> With an attention to ornithological and ethological literature concerning the species *Pandion haliaetus* the figure of the osprey that emerges in this historical geography is intended to be more contingent, more articulate, and more *interesting*.<sup>1329</sup>

The ethic of this thesis is one that acknowledges the fraught work of making relations and spaces for more than one species to flourish in a convivial manner.<sup>1330</sup> It emphasises that by taking the osprey seriously as a historical agent, one might also take seriously broader ethical questions about 'animal culture' and extinction as a process that affects more than just a genetic loss. Bodies are immersed and therefore connected to other places by way of potentially toxic circulations and flows. Some birds do live, even only slightly, diminished lives so that others might nest with a decreased chance of public disturbance. Yet, this is an ethic that complicates the straight biopolitical logic of population over individual, because it troubles a common genetic heritage as the basis for that population. Instead, an

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<sup>1327</sup> Latour B (2004a) op cit.

<sup>1328</sup> Haraway D (1992) 'The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others' in Grossberg L, Nelson C, Treichler P (eds) *Cultural Studies* (Routledge; New York): 297.

<sup>1329</sup> Despret V (2005) op cit.: 363.

<sup>1330</sup> van Dooren T and Rose D-B (2012) op cit.

attention to historically contingent communities asks for consideration of more-than-genetic connections between beings and place.

Through an understanding of life as involved, animals in history are not passive screens that merely reflect the changing discourses or considerations of humanity; neither are they entities that exist 'outside' of history as timeless and unchanging. Nonhuman animals are as much a part of, and are affected by, historical change as humans. Their inclusion in academic encounters with the past is necessary for an appreciation of the full scope of a much broader 'transspecies history'. This is the affirmative contribution of this thesis: to expand the scope of what an 'animal history' might be expected to deliver. I now briefly turn to some possible areas for future research.

### **3. Flight lines Into Further Research**

For Deleuze and Guattari any assemblage or rhizomatic gathering is characterised by 'lines of flight': vectors of force or activity that spin off, outward, leading into the distance to pose new questions. This thesis has raised several possible lines of flight, some following the flight-lines of ospreys themselves as they cut across the demarcations of my empirical chapters. In this final section I want to turn to the tension between the community and the individual; to the geographies of migration; and to the more-than-osprey nature of the involvements explored.

#### **Osprey communities and individuals**

This thesis has chosen to encounter animal life by way of a situated notion of more-than-human 'community'. Taking a lead from work on extinction by Kathryn Yusoff and many others, I have attended to the osprey in Scotland not as a 'population' in the genetic sense, but as an assemblage of beings circulating between nest sites, generations, and wintering areas. This is an ontology of the osprey as a flight way: the intergenerationally linked and laboured continuation of a group of birds in place.<sup>1331</sup> As such, I have been drawn to materialist questions about the conditions for life, or certain lives in certain places, to be affected in different ways, and what this might mean for a range of articulations of osprey existence, made more or less possible. This mode of attention has been a useful tactic for a historical animal

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<sup>1331</sup> van Dooren T (2014) op cit.

geographer, reading for the materialism of the osprey world within 'the archive', rather than for the traces of individual bird experiences, which are few and far between.

My overarching approach has been symptomatic of these silences and absences in the historical record – the partial and fragmentary character of an 'animal archive' read against the grain of human-centred records. The osprey world, not unlike the histories of many marginal groups, has to be actively conjured forth by reading *across* documents. Individual ospreys and their individual experiences are a less common presence in the archive. Where I have discovered stories relating to individuals – the saga of the second nesting pair, or the death of the male bird at Garten after he was taken into captivity – I have included them to show osprey historical geographies as they are experienced through specific osprey bodies.

The more recent history of the osprey in Scotland, particularly amongst those most enthusiastically invested in the story, is today bound up with particular osprey 'characters' that have come to be known and cherished as favourites.<sup>1332</sup> The biography of 'Lady' for example, an osprey claimed to be nearly 30 years old (double the average life span) that returned each year to nest at Loch of the Lowes from 1990 until 2014, illustrates the way in which certain birds and their faith to sites individuate their existence in the minds of the public and conservationists.<sup>1333</sup> Her story also allows us to question the limits to *knowing* individuals: she was not ringed and therefore her (disputed) identification at the site relied upon markings, behaviour recognition and – later – the zooming in of the nest camera onto her iris. For other birds of course, the identification of individuals is made easy by way of ringing and satellite tracking (see below). As a result, a mass of data is now available for individual ospreys, their life courses and their returns. For birds like Lady, whilst members of a wider osprey community, their existence proposes the possibility of writing an osprey 'biography' (as Helen Armitage has done for the populist birding market). For a bird far more extensively documented than any encountered in this thesis, one can extend the biographical work pioneered in

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<sup>1332</sup> As they might be termed, following the work of Cande M (2010) *op cit*.

<sup>1333</sup> Armitage H (2011) *Lady of the Loch: The Incredible story of Britain's Oldest Osprey*.

historical geography into the domain of the more-than-human.<sup>1334</sup> As Lestel has argued, such close attention to the life of an individual animal has the potential to reveal and engage seriously with the 'strong heteronomous subject' that emerges, and to explore in new ways the dimensions of the communities in which it is situated.<sup>1335</sup>

What is the scope or utility of a biographical approach to wild animals? The ethical work of individual animal 'characters' is something that I have acknowledged as I have also shifted away from it in my use of the term community, particularly in discussing the affects of osprey extinction. Yet, just as humans display differing scope for agency at different times, my attention to more than human agency has been, following Jane Bennett, avowedly against the 'horizontalizing' of agential capacities across beings.<sup>1336</sup> Might a biographical approach, or an attention to osprey biographies reveal how certain birds at certain times have played defining roles in the species history? Such work would challenge any temptation to flatten or universalise osprey experience. It is well recognised in osprey nesting ethology that the presence of breeding pairs nesting in a region can attract others; not just through the construction of useable niches, but by their presence signalling suitable habitat to other birds. We might therefore speculate that the ospreys nesting at Loch Garten in the 1950s hailed the attempts of the second pair that attempting to breed here.

Such provocation strains against the limits of both historical scholarship and understandings of nonhuman agency. I propose that animal biographies might simultaneously test our ability to recover animal histories, to combine and mix methods, to work across disciplines and epistemological divides. The possibility of a rhizomatic and differentiated, *less flat* ontology of animal agency asks us to consider that some individuals in a community might *matter more* (or be made to matter) for the constitution of geographies and the nature of involvements. In turn, this opens up a further area for intriguing experimentation and collaboration between ecological and biological science on the one hand and social theory on the other.

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<sup>1334</sup> For a review see Withers C (2007) 'History and philosophy of geography 2004–2005: biographies, practices, sites' *Progress in Human Geography* **31**(1): 67–76.

<sup>1335</sup> Lestel D (2002) op cit.: 51.

<sup>1336</sup> Bennett J (2010) op cit.: 104.

## Migration geographies

A second area for future research is that of the geographies of migration. The osprey communities found across the entire Palearctic region are migratory. As a result, this thesis has effectively delivered a partial, half-geography of historical Scottish osprey involvements. From as early as September, and until as late as March, osprey existence is lived amidst the environments of the Mediterranean and West Africa.

It is also the case that the character of osprey life lived in wintering areas differs from that observed at the nest. For half the year here they live solitary lives, hunting and roosting alone. Their behavioural ecology in their wintering grounds has been a subject for ecological and ornithological study in its own right. Such investigation relies on a different set of knowledge producing technologies and involvements. Whilst there may be favoured roosts or perches, there is no nest site to which the birds will faithfully return and a more mobile scientific enterprise, involving innovative methods of capture, is required to measure and mark birds for study.<sup>1337</sup> The material conditions for osprey life in these places differ too. Some ecologists note that the use and residues of compounds including DDT have persisted in the osprey's wintering grounds in South America and Africa for long periods after their application was banned in Britain and the USA. Osprey involvements on migration provide a continuing means for agents to enter the avian body and affect behaviour at their breeding grounds.<sup>1338</sup>

The temporal and geographical refrains of osprey migration have featured across the thesis in various guises. The annual erection and disassembly of an apparatus of osprey biosecurity and display at Loch Garten is synchronised with immanent avian arrivals and departures. Moreover, both now, as in the past, migration marks a time of uncertainty. It is always unclear which young birds will return to continue the re-colonisation, given the possible routes to take and the threats they face in doing so. Ringing recoveries from across the Atlantic have shown mortality rates of nearly 60% in the first year, with annual rates of between 10-18% for returning birds on

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<sup>1337</sup> See Provost Y (1982) *The Wintering Ecology of Ospreys in Senegambia*. University of Edinburgh, PhD Thesis.

<sup>1338</sup> Newton I (1979) op cit.: 230.

migration thereafter.<sup>1339</sup> Such data have also enabled a sketching of the migration geographies of the species. For much of the twentieth century this could comprise little but a general outline of the route or an indication of the extent of current wintering grounds. This knowledge was built upon, by and large, the recovery of dead or injured birds and so much of what was initially discovered about osprey migration derived from their ‘sacrifice’.

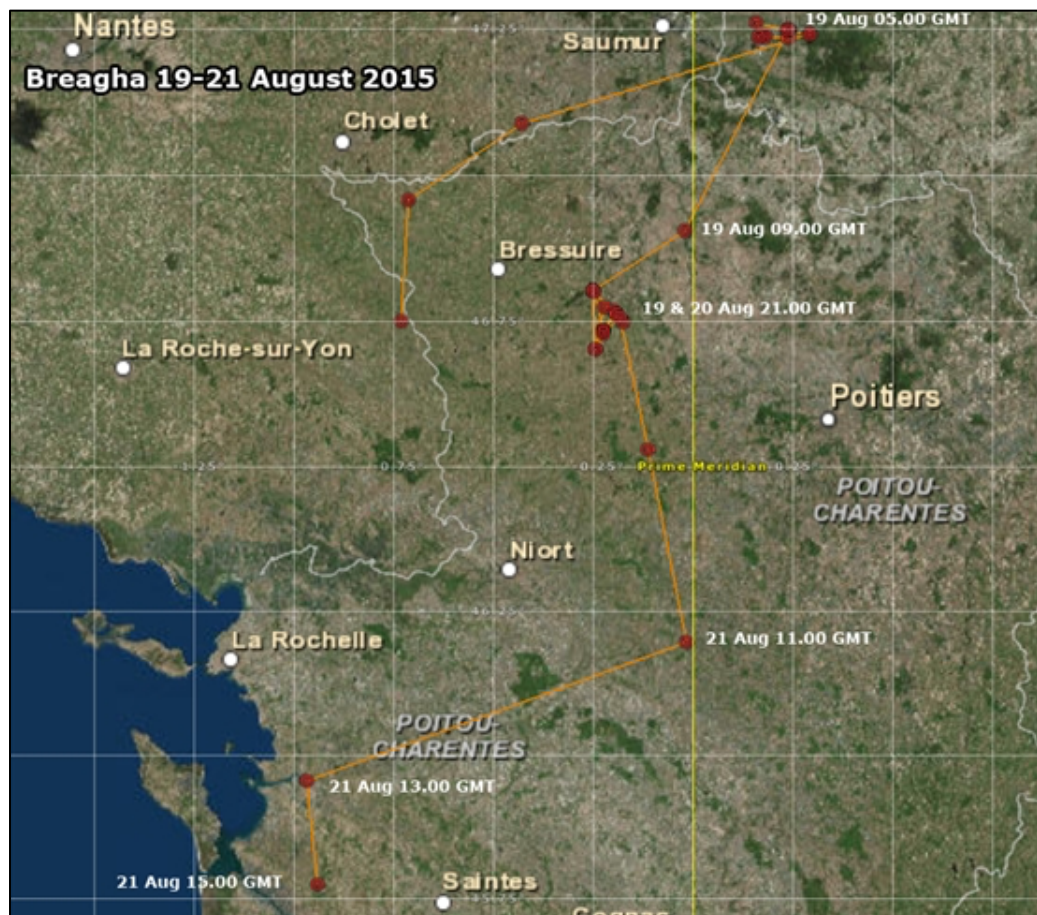


Figure 34: Map showing the satellite tracking of osprey chick ‘Breagha,’ a fledgling from Loch Garten in 2014. Posted on the Loch Garten Osprey Diary Blog, RSPB community webpages [Accessed on 27th August 2015 at <http://www.rspb.org.uk/community/places/tovisit/lochgartenospreys/b/lochgartenospreys/archive/2015/08/24/farewell-odin.aspx>]

Contemporary technical advances of the past decade, particularly the development of miniaturised and affordable GPS trackers, enhance understanding of these osprey geographies (Figure 34). By way of satellite-mediated perception – a ‘limitless

<sup>1339</sup> Figures taken from a study by Henny C and Wight H (1969) ‘An endangered Osprey population: estimates of mortality and production’ *The Auk* 86(2): 188-198, as quoted in Newton I (1979) op cit.: 367-368; see also Dennis R (2008) op cit.: 115.

vision' that 'removed the human observer from direct contact with nature' – individual birds can now be live-tracked to and from the nest for as long as they survive, and their tracker's batteries endure.<sup>1340</sup> These technical devices also speak to an enduring militarisation of the osprey body: such devices have been developed by military-sponsored scientists, not only producing the means to investigate bird migration in this way but doing so for its potential military applications.<sup>1341</sup>

With this new understanding of migration, the possibilities, scope and objectives of raptor biopolitics are now changing. Migration routes, and particular 'high-risk hotspots' of insecurity, can be monitored for more wide-ranging species.<sup>1342</sup> Areas of danger or refuge become the objects of intervention; a migratory biosecurity extends across borders by way of charitable and scientific collaboration – or stalls over disagreements on the nature of international bird protection law. Greater resolution by way of satellite tracking reveals the specifics of routes taken, in turn suggesting that different communities of birds inherit different migration preferences that might even outlast their translocation.<sup>1343</sup> Discussions over the differences between migration routes recall the theorising of 'flight lines' amidst the early twentieth century debates that apportion the blame for the Scottish extinction to Irish sporting estates.<sup>1344</sup> Here questions come to fore regarding the specific 'cultures' of migration and the implications for the protection of birds from different places.

It is clear therefore that migration geographies – of both ospreys and, indeed, all animal life – offer fertile ground for further research in animal geographies. As an example, Hugo Reinert has already shown how an attention to the migratory assemblage of avian life in conservation biopolitics opens up questions about the impacts of involvements in one location on the possibilities for survival in another.<sup>1345</sup> Further consideration might also be given to how beings are constituted across much more extensive geographies, and how humans seek to position themselves at nodal points within those route-ways. For example, attention might

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<sup>1340</sup> Mittman G (1996) op cit.: 135.

<sup>1341</sup> For a more detailed history, see Benson E (2010) op cit.

<sup>1342</sup> Hays G (2014) 'Tracking animals to their death' *Journal of Animal Ecology* **83**(1): 5.

<sup>1343</sup> Dennis R (2008) op cit.

<sup>1344</sup> See the discussion of the osprey's extinction in Chapter 7.

<sup>1345</sup> Reinert H (2013) op cit.; (2015) op cit.

be given to the historical geographies of island bird observatories as sites that provide the architecture for humans to hold scientific conversations with the processes of migration. A fuller account of osprey involvements might follow the birds across this fuller geography, and the involvements that characterise it *away from* as well as at the nest.

### **Scope for expanded involvements**

Finally, there exist many beings involved in these osprey stories that are neither human nor osprey. In two situations domestic chickens have played a curious role: they have provided laboratory-based proxy bodies through which osprey (and raptor) biologies are sensed in their response to the toxicity of DDT; the similarity of their eggs to those of the osprey has afforded a duplicitous means of concealing the theft of a clutch from the Loch Garten nest.<sup>1346</sup> One line of flight from the nest of the Scottish osprey might ask: what other beings share common historical experiences bound up with this community?

I have at times considered the position of the osprey within a broader community of 'raptors' in Britain, conjugated by their similar experiences of environmental change and physiology. If processes akin to those I have described here – nesting, re-colonising, extinction and chemical contamination – occur by way of communities and their propagation, I see potential for exploring wider 'raptor geographies'. Since raptors can both share and defend their territories against other birds of prey, and the siting of nests and activities such as hunting are often modulated by the presence of other raptors, one might understand the relations of certain raptors to geography better through understanding of these broader raptorial inter-involvements. Many of those practicing osprey conservation operate across species, with a generalised involvement in raptor life that draws upon their experiences working with different constituent species communities. I have speculated on the existence and nature of osprey cultures. I would likewise propose that there exist both cultural differences amongst other raptor species in different geographical contexts (something already noted in the urban residence of peregrine falcons).<sup>1347</sup> In places where raptor populations have endured a shared history of persecution,

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<sup>1346</sup> Ratcliffe D (1967a) op cit.

<sup>1347</sup> See Bird D, Varland D and Negro J (1996) *Raptors in Human Landscapes: Adaptation to Built and Cultivated Environments*; Hinchliffe S and Whatmore S (2006) op cit.



might there exist something akin to a common 'raptor experience'? It is intriguing to think where such questions might lead, albeit with the sensitivity to avoid a descent into universalising claims about birds of prey and their ways of living.



**Figure 35: Photograph showing (from left to right) Roy Dennis, warden of Fair Isle bird observatory; Dr Johan Wilgohs, Norwegian expert on the white-tailed sea eagle (*Haliaeetus albicilla*); and George Waterston, RSPB Scottish Secretary as they examine a young eaglet amidst attempts to reintroduce the species on Fair Isle in 1968. RSPB Sandy, Image RSPB13V8, Classmark 01.05.709. Reproduced by kind permission of the RSPB.**

Ospreys provide a gateway into raptor involvements in other ways. As the species has proven an 'easy species to build with' so to has it demonstrated the possibility for more creative and experimental restoration projects involving other raptors. For example, before the successful re-introduction of the white-tailed eagle to the west coast of Scotland in the 1980s, Waterston – enthused by his successes on Speyside – attempted the translocation of Norwegian white-tailed eagle chicks to Fair Isle in 1968 (Figure 35).<sup>1348</sup> Around the same time, during the late 1960s, he was also

<sup>1348</sup> See the minutes of meetings of the Conservation Committee (28 February; 16 May; 25 September; 27 November 1968) RSPB Watchers Committee/Conservation Committee

attempting to organise ‘Operation Snowy Owl’ on Fetlar, Shetland<sup>1349</sup>: a project designed to warden another rare bird species in the same way as he had done the ospreys. In discussions over the latter project there appears an active process of borrowing and adapting plans, resources and even personnel from Loch Garten.<sup>1350</sup> Indeed, as I’ve discussed in Chapter 5, discussions around standardising a method of logging osprey behaviour on Speyside were specifically motivated by the desire to hone a model of practice that could then be used at other reserves or projects like that at Fetlar. In a similar fashion, the senior warden’s position at Loch Garten – prior to the reserve’s purchase – became something akin to a ‘probationary role’ for new wardens during the early 1970s. As a small, bounded project, experience on Speyside could prepare new employees for the responsibilities they would face when managing one of the Society’s larger reserves.<sup>1351</sup> Here the role of the osprey is almost akin to that of the chickens: an entity with which ones involvements form the basis for further encounters with other species.

To return to my consideration of the future oriented ethics of nest building in Chapter 6, the introduction of new creatures to new places by way of ‘re-wilding the skies’ will also create space for other species to flourish or diminish. For example, the work of ornithologists in America has revealed how some bird species nest within the macro-structures of osprey eyries, and observations – both within the literature and that were relayed to me in the field – indicate that crows or gulls will often make use of the vacant platform during the winter as a perch on which to feed.<sup>1352</sup> At Loch Garten, examinations of nest material reveal the eyrie structure as a

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Minutes (Renamed Conservation Committee in October, 1966), July 1954-November 1970 – RSPB Sandy, Classmark 01.01.11.

<sup>1349</sup> See the minutes of meetings of the Conservation Committee (22 November 1967; 28 February 1968) RSPB Watchers Committee/Conservation Committee Minutes (Renamed Conservation Committee in October, 1966), July 1954-November 1970 – RSPB Sandy, Classmark 01.01.11.

<sup>1350</sup> See for example the letter from Chris Lowe, 31 Birchfield Road, Northampton to George Waterston (26 March 1968) The correspondent having volunteered at Loch Garten writes to make himself available for a shift on Fetlar as part of ‘Operation Snowy Owl’ – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

<sup>1351</sup> Interview with Tony Pickup, Operation Osprey warden 1974, 22 October 2013.

<sup>1352</sup> Field notes from a day in the field and an interview with Brian Etheridge, op cit.; Ewins P, Miller M, Barker M and Postupalsky S (1994) ‘Birds Breeding in or beneath Osprey Nests in the Great Lakes Basin’ *The Wilson Bulletin* **106**(4): 743-749.

particularly productive micro-habitat for the beetle *Haploglossa picipennis*.<sup>1353</sup> Might the experience of the osprey have an impact upon Speyside's insect geographies? This is, after all, an area of study characterised by Philo and Wilbert as dramatically under-explored amidst the proliferating scholarship of contemporary animal geographers.<sup>1354</sup> These examples are small in the context of far grander re-wilding projects that seek to act upon landscapes by initiating more substantive trophic cascades.<sup>1355</sup> And yet, I would argue, as Jonathan Prior and Emily Brady do, that the (re)introduction of any species into an ecological community from which it was absent is pause for thought; both worthy of research and demanding of ethical consideration.<sup>1356</sup>

As a final note, since the late 1990s the apparatus of the osprey centre at Loch Garten as a whole, replete with CCTV cameras and a more spacious and improved visitor area, has been reoriented towards the plight of another threatened species, the capercaillie. 'Caperwatch' sees groups of visitors granted entry to the visitor centre in the early morning during the birds' lekking season as the males fight for breeding rites. The cameras are turned away from the osprey and towards the moorland in search of a different kind of avian presence. As former Loch Garten reserve manager Richard Thaxton notes, this is merely an extension of the same Operation Osprey logic of 'partial revelation' to the protection of a different species: Caperwatch is 'a way and means of showing people spectacular and vulnerable wildlife without disturbance'.<sup>1357</sup> The scheme is, however, far more dependent upon the cooperation of the birds, which do not nest at the site but are rather known to use it as a space for their displays. Therefore, in contrast to enabling direct involvements at the osprey nest, Caperwatch stakes its promise of involvement on simply being present in an environment known to feature rare birds. Such an example shows how the infrastructure and architecture of a particular historical

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<sup>1353</sup> Owen J and Taylor S (1989) '*Haploglossa picipennis* (Gyllenhal) (Col.: Staphylinidae) in Ospreys' Nests' *Entomologist's Record* **101**: 53-55.

<sup>1354</sup> Philo C and Wilbert C (2000) op cit.: 7-8.

<sup>1355</sup> See the discussion of work in Chapter 6 by authors such as George Monbiot, Jamie Lorimer and Clemens Driessen.

<sup>1356</sup> Prior J and Brady (forthcoming) op cit.: 7.

<sup>1357</sup> Interview with Richard Thaxton, former manager of the Loch Garten Osprey Centre, 26 November 2013.

involvement in the life of one bird community offers a potential space in which ethical consideration or the protection of other creatures might be explored.

#### **4. Closing Remarks**

This thesis has approached the historical geography of human-osprey relations from a desire to tell the multiple versions of a more-than-human story. I have framed osprey life as involved in its own geography, history and composition: one cannot understand the osprey in Scotland without also understanding the activities and actions – largely human in design, instigation and imposition – of the other beings with which it shares the environment. The project began with questions over whether it was possible to write an *osprey* history or historical geography, and how one might consider the osprey as a historical being or agent. I have argued that such questions are important for pushing at the boundary of animal geography and animal history. However, at times they also fundamentally miss the point, installing a false dichotomy between monolithic notions of Human History on the one hand, and ‘natural’ or more-than-human histories on the other. The concept of ospreys as historically *involved* has therefore provided a more open, contingent and rhizomatic form of empirical concern.

To say that something is involved is also to say that it is complex, messy, or opaque (Figure 2). To be involved in something is to be caught up or engrossed with it. These latter definitions matter too for both ontology and epistemology. Involvement in this thesis has grown out of an encounter with vital theory that is capable of holding onto and rendering some sense of the complexity. Involvement demands *attention*; from both humans and birds to each other, and from a researcher to the presence of moments, beings or relations in historical and contemporary sources where linger the traces of these attachments and imbrications.

In closing, this thesis finds involvement as both a fertile, protean term and an epistemological outlook. Involvement is about trying to hold on to the imbricated and participatory nature of historical and geographical change. Even when focussing on particular facets of historical involvement between a human and osprey, I nonetheless want to retain a sense of the nebulous fields of beings and relations that exist laterally and longitudinally to these specific encounters. The

osprey's history is entrained within, and entraining of, human history. By taking the involvement of beings as the engine of new formations seriously, I have aimed to develop a richer historical understanding of both avian and human life, on Speyside and beyond.

# Chapter 9

## Bibliography

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### 1. Cited Works<sup>†</sup>

- Abbott C** (1911) *The Home Life of the Osprey*. Witherby & Co; London.
- Adams C** (1990) *The Sexual Politics of Meat*. Polity; Cambridge.
- Adams W** (2004) *Against Extinction: The Story of Conservation*. Earthscan; London.
- Advisory Committee on Poisonous Substances used in Agriculture and Food Storage** (1964) *Review of the Persistent Organochlorine Pesticides*. Her Majesty's Stationary Office; London.
- Agamben G** (2009) *What is an Apparatus? And Other Essays*. Stanford University Press; Stanford CA.
- Ahmed S** (2003) *The Cultural Politics of Emotion*. Routledge; London & New York.
- Ahmed S** (2006) *Queer Phenomenology*. Duke University Press; Durham NC & London.
- Alaimo S** (2010) *Bodily Natures: Science, Environment and the Material Self*. Indiana University Press; Bloomington IN & Indianapolis
- Allen D** (1976) *The Naturalist in Britain: A Social History*. Penguin; London.
- Ames P** (1966) 'DDT Residues in the Eggs of the Osprey in the North-Eastern United States and Their Relation to Nesting Success' *Journal of Applied Ecology* 3(Supplement: Pesticides and the Environment, June 1966): 87-97.
- Ames P and Mersereau G** (1964) 'Some Factors in the Decline of the Osprey in Connecticut' *The Auk* 81(2): 173-185.
- Anderson B** (2012) 'Affect and biopower: towards a politics of life' *Transactions of the Institute of British Geographers* 37(1): 28-43.
- Anderson B** (2014) *Encountering Affect: Capacities, Apparatuses, Conditions*. Ashgate; Farnham.
- Anderson B, Kearnes M, McFarlane C and Swanton D** (2012) 'On assemblages and geography' *Dialogues in Human Geography* 2(2): 171-189
- Anderson B and Macfarlane C** (2011) 'Assemblage and geography' *Area* 43(2): 124-127.
- Anderson B and Wylie J** (2009) 'On geography and materiality' *Environment and Planning A* 41(2): 318-335.
- Anderson K** (1995) 'Culture and nature at the Adelaide Zoo: at the frontiers of 'human' geography' *Transactions of the Institute of British Geographers* 20(3): 275-294.

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<sup>†</sup> References marked by an asterisk (\*) denote published works sourced from the online collections of the Internet Archive, <https://archive.org>.

- Anderson K** (1997) 'A walk on the wild side: a critical geography of domestication' *Progress in Human Geography* **21**(4): 463-485.
- Andrews G, Kearns R, Kontos R and Wilson V** (2006) "'Their finest hour': older people, oral histories, and the historical geography of social life' *Social & Cultural Geography* **7**(2): 153-177.
- Andrews M** (1989) *The search for the picturesque*. Scolar Press; Aldershot.
- Armitage H** (2011) *Lady of the Loch: The Incredible story of Britain's Oldest Osprey*. Constable; London.
- Audubon J** (1831) *Ornithological Biography, or an Account of the Habits of the Birds of the United States of America; Accompanied by Descriptions of the Objects Represented in the Work Entitled The Birds of America, and Interspersed with Delineations of American Scenery and Manners*. Adam Black; Edinburgh.\*
- Bachelard G** (1993) *The Poetics of Space*. Beacon; Boston MA.
- Baker A** (1997) 'The dead don't answer questionnaires: researching and writing historical geography' *Journal of Geography in Higher Education* **21**: 231-243.
- Baker J** (2015) 'Darkness, travel and landscape: India by fire- and starlight, c1820-c1860' *Environment and Planning D: Society & Space* **33**(4): 749-765.
- Baker J A** (1967) *The Peregrine*. Collins; London.
- Balmer B** (2006) 'A Secret Formula, A Rogue Patent and Public Knowledge about Nerve Gas: Secrecy as a Spatial-Epistemic Tool' *Social Studies of Science* **36**(5): 691-722.
- Balmer B** (2015) 'An Open Day for Secrets: Biological Warfare, Steganography, and Hiding Things in Plain Sight' in Rappert B and Balmer B (eds) *Absence in Science, Security and Policy: From Research Agendas to Global Strategy* (Palgrave MacMillan; Basingstoke & New York): 34-52.
- Balmer B** (2016) *Secrecy and Science: A Historical Sociology of Biological and Chemical Warfare*. Routledge; London & New York.
- Barad K** (2003) 'Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter' *Signs* **28**(3): 801-831.
- Barad K** (2007) *Meeting the Universe Halfway: quantum physics and the entanglement of matter and meaning*. Duke University Press; Durham NC & London.
- Barker J** (2015) 'Against 'vital materialism': The Passive Creation of Life in Deleuze' *Mosaic* **48**(4): 49-62.
- Barker K** (2008) 'Flexible boundaries in Biosecurity: Accommodating Gorse in Aotearoa New Zealand' *Environment and Planning A* **40**(7): 1598-1614.
- Barrow G** (1999) 'The Background to Medieval Rothiemurchus' in Smout C and Lambert R (eds) *Rothiemurchus: Nature and People on a Highland Estate, 1500-2000* (Scottish Cultural Press; Dalkeith): 1-6.
- Baxter E and Rintoul L** (1953) *The Birds of Scotland: Their History, Distribution, and Migration* (Vol. 1). Oliver and Boyd; Edinburgh.
- Bear C** (2011) 'Being Angelica? Exploring individual animal geographies' *Area* **43**(3): 297-304.

- Beattie W** (1838) *Scotland Illustrated in a Series of Views Taken Expressly for this Work*, Vol. 2. George Virtue; London.\*
- Bedford E** (1909) *Nature Photography for Beginners*. JM Dent & Sons; London.\*
- Benson E** (2010) *Wired Wilderness: Technologies of Tracking and the Making of Modern Wildlife*. The Johns Hopkins University Press; Baltimore MD.
- Benson E** (2011a) 'Animal Writes: Historiography, Disciplinarity, and the Animal Trace' in Kalof L and Montgomery G (eds) *Making Animal Meaning* (Michigan State University Press; East Lansing MI): 3-16.
- Benson E** (2011b) 'From Wild Lives to Wildlife and Back' *Environmental History* 16(3): 418-422.
- Bennett J** (2005) 'The Agency of Assemblages and the North American Blackout' *Popular Culture* 17(3): 445-465.
- Bennett** (2010) *Vibrant Matter: A Political Ecology of Things*. Duke University Press; Durham NC & London.
- Biermann C and Mansfield B** (2014) 'Biodiversity, purity, and death: conservation biology as biopolitics' *Environment and Planning D: Society & Space* 32(2): 257-273.
- Binghan N** (2006) 'Bees, butterflies and bacteria: biotechnology and the politics of nonhuman friendship' *Environment and Planning A* 38(3): 483-498.
- Bingham N, Enticott G and Hinchliffe S** (2008) 'Biosecurity: spaces, practices, and boundaries' *Environment and Planning A* 40(7): 1528-1533.
- Bonta M** (2010) 'Ornithophilia: Thoughts on Geography in Birding' *Geographical Review* 100(2): 139-151.
- Booth E** (1887) *Rough Notes on the Birds Observed During Twenty-Five Years of Shooting and Collecting in the British Isles*, Vol. 1. R.H. Porter; London.\*
- Bowker G and Star S** (1999) *Sorting Things Out: Classification and its Consequences*. MIT Press; Cambridge MA & London.
- Brandin E** (2009) 'Versions of 'wild' and the importance of fences in Swedish wildlife tourism involving moose' *Current Issues in Tourism* 12(5-6): 413-427.
- Brantz D** (ed) (2010) *Beastly Natures: Animals, Humans and the Study of History*. University of Virginia Press; Charlottesville VA & London.
- Braun B** (2007) 'Biopolitics and the molecularization of life' *Cultural Geographies* 14(1): 6-28.
- Braun B** (2008) 'Environmental issues: global natures in the space of assemblage' *Progress in Human Geography* 30(5): 644-654.
- Braverman I** (2015) *Wild Life: The Institution of Nature*. Stanford University Press; Stanford CA & London.
- Brettell J** (2016) 'Exploring the multinatural: mobilising affect at the red kite feeding grounds, Bwlch Nant yr Arian' *Cultural Geographies* 23(2): 281-300.
- Brower M** (2011) *Developing Animals: Wildlife and Early American Photography*. University of Minnesota Press; Minneapolis & London.



- Brown C, McMorran R and Price M** (2011) 'Rewilding: A New Paradigm for Nature Conservation in Scotland?' *Scottish Geographical Journal* **127**(4): 288-314.
- Brown L** (2007) 'Becoming-Animal in the Flesh: Expanding the Ethical Reach of Deleuze and Guattari's Tenth Plateau' *PhaenEx* **2**(2): 260-278.
- Brown P** (1962) 'The Return of the Osprey' in Brown P and Waterston G (eds) *The Return of the Osprey* (Collins; London & Glasgow): 17-64.
- Brown P** (1979) *The Scottish Ospreys: From Extinction to Survival*. Heineman; London.
- Bryden D, Westbrook S, Burns B, Taylor W, and Anderson S** (2010) *Assessing the economic impacts of nature based tourism in Scotland*. Scottish Natural Heritage; Commissioned Report No 398 [Accessed on 15/4/13 at <http://www.snh.gov.uk/docs/B726802.pdf>]
- Buck H** (2015) 'On the Possibilities of a Charming Anthropocene' *Annals of the Association of American Geographers* **105**(2): 369-377.
- Buller H** (2004) 'Where the wild things are: the evolving iconography of rural fauna' *Journal of Rural Studies* **20**(2): 131-141.
- Buller H** (2008) 'Safe from the Wolf: Biosecurity, Biodiversity, and Competing Philosophies of Nature' *Environment and Planning A* **40**(7): 1583-1597
- Buller H** (2014) 'Animal geographies I' *Progress in Human Geography* **38**(2): 308-318.
- Buller H** (2015) 'Animal geographies II: Methods' *Progress in Human Geography* **39**(2): 374-384.
- Burton S and Brady E** (11 October 2013) 'What is it like to be a bird?' Paper presented as part of 'Winged Creatures', the Glasgow meeting of British Animal Studies Network, October 2013 [A recording of this paper can be accessed at <http://www.britishanimalstudiesnetwork.org.uk/Portals/108/Brady%20paper.MP3>]
- Butler J** (1993) *Bodies That Matter: On the Discursive Limits of Sex*. Routledge; London & New York.
- Butler J** (2009) *Frames of War: When is Life Grievable?* Verso; New York.
- Buxton J** (1950) *The Redstart*. Collins; London.
- Callaghan D** (2010) *The History of Bird Watching in 100 Objects*. Bloomsbury; London.
- Callon M** (1984) 'Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay' *The Sociological Review* **32**(S1): 196-233.
- Callon M** (2002) 'Writing and (Re)writing Devices as Tools for Managing Complexity' in Law J and Mol A (eds) *Complexities: Social Studies of Knowledge Practices* (Duke University Press; Durham NC and London): 191-217.
- Cameron D** (1948) 'Recollections about the Ospreys at Achnacarry' *British Birds* **36**(9): 184.
- Candea M** (2010) "'I fell I love with Carlos the meerkat': Engagement and detachment in human-animal relations' *American Ethnologist* **37**(2): 241-258.
- Carruthers R** (1843) *The Highland Notebook, or Sketches and Anecdotes*. Adam & Charles Black; Edinburgh.\*

- Carson R** (1965) *Silent Spring*. Penguin; Harmondsworth.
- Cash C** (1914) 'History of the Loch an Eilein Ospreys' *The Scottish Naturalist* **31**(July): 149-158.\*
- Chambers C** (2007) "'Well it's remote, I suppose, innit?": The relational politics of bird-watching through the CCTV lens' *Scottish Geographical Journal* **123**(2): 122-134.
- Chrulew M** (2011) 'Managing Love and Death at the Zoo: The Biopolitics of Endangered Species Preservation' *Australian Humanities Review* **50**: 137-157.
- Chrulew M** (2012) 'Animals in Biopolitical Theory: Between Agamben and Negri' *New Formations* **76**: 53-67
- Clark N** (2011) *Inhuman Nature: Sociable Life on a Dynamic Planet*. Sage; London, California, New Dehli & Singapore.
- Clark N** (2013) 'Mobile Life: Biosecurity Practices and Insect Globalization' *Science as Culture* **22**(1): 16-37.
- Cole A and Trobe W** (2011) *The Egg Collectors of Great Britain and Ireland: An Update*. Peregrine Books; Leeds.
- Cole E** (2016) 'Blown out: the science and enthusiasm of egg collecting in the Oologists' Record, 1921-1969' *Journal of Historical Geography* **51**: 18-28.
- Collard R-C** (2012a) 'Cougar figures, gender, and the performances of predation' *Gender, Place and Culture* **19**(4): 518-540.
- Collard R-C** (2012b) 'Cougar-Human Entanglements and the Biopolitical Un/Making of Safe Space' *Environment and Planning D: Society & Space* **30**(1): 23-42.
- Colquhoun J** (1840) *The Moor and the Loch: Containing Practical Hints on Most of the Highland Sports, and Notices of the Habits of the Different Creatures of Game and Prey in the Mountainous Districts of Scotland, with an essay on Loch Fishing*. William Blackwood & Sons; Edinburgh.\*
- Connell J** (2009) 'Birdwatching, Twitching and Tourism: Towards an Australian Perspective' *Australian Geographer* **40**(2): 203-217
- Cooke A, Bell A and Haas M** (1982) *Predatory Birds, Pesticides and Pollution*. Institute of Terrestrial Ecology; Huntingdon.
- Cosgrove P** (2016) 'Do adult Golden Eagles teach their offspring to hunt?' *Scottish Birds* **36**(1): 10-11.
- Cramp S, Simmons K, Gillmor R, Hollom P, Hudson R, Nicholson E, Ogilvie M, Olney P, Roselaar C, Voous K, Wallace D and Wattel J** (1980) *Handbook of the Birds of Europe, the Middle East and North Africa: The Birds of the Western Palearctic (Volume II: Hawks to Bustards)*. Oxford University Press; Oxford, London & New York.
- Crist E** (1999) *Images of Animals: Anthropomorphism and the Animal Mind*. Temple University Press; Philadelphia PA.
- Cronon W** (1996a) 'The Trouble with Wilderness: Or, getting Back to the Wrong Nature' *Environmental History* **1**(1): 7-28.
- Cronon W** (1996b) 'The Trouble with Wilderness: A Response' *Environmental History* **1**(1): 47-55.

- Cunsolo-Willox A** (2012) 'Climate Change as the Work of Mourning' *Environment and Ethics* **17**(2): 137-164.
- Darling J** (2010) 'Just Being There...': Ethics, Experimentation and the Cultivation of Care' in Anderson B and Harrison P (2010) *Taking Place: Non-Representational Theories and Geography* (Ashgate; Surrey): 241-260.
- Davis S** (2011) 'Militarised natural history: Tales of the avocet's return to postwar Britain' *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* **42**(2): 226-232.
- Davies D** (1989) 'The evocative symbolism of trees' in Cosgrove D and Daniels S (eds) *The Iconography of Landscape* (Cambridge University Press; Cambridge): 32-42.
- Davies G** (2012) 'What is a Humanized Mouse? Remaking the Species and Spaces of Translational Medicine' *Body and Society* **18**(3-4): 126-155.
- Davies G and Dwyer C** (2010) 'Qualitative Methods III: animating archives, artful interventions and online environments' *Progress in Human Geography* **34**(1): 88-97.
- Dawkins R** (1982) *The Extended Phenotype*. Oxford University Press; Oxford.
- DeLanda M** (2000) *A Thousand Years of Nonlinear History*. Swerve Editions; New York.
- DeLanda M** (2006) *A New Philosophy of Society: Assemblage Theory and Social Complexity*. Continuum; London.
- Deleuze G** (1988) *Spinoza: Practical Philosophy*. City Lights Books; San Francisco CA.
- Deleuze G** (1992) 'What is a dispositif?' in Armstrong T (ed) *Foucault: philosopher* (Harvester Wheatsheaf; New York): 159-168.
- Deleuze G** (2014) *Difference and Repetition*. Bloomsbury; London & New York.
- Deleuze G and Guattari F** (1994) *What is Philosophy?* Colombia University Press; London & New York.
- Deleuze G and Guattari F** (2000) *Anti Oedipus: Capitalism and Schizophrenia Vol. 1*. University of Minnesota Press; Minneapolis.
- Deleuze G and Guattari F** (2013) *A Thousand Plateaus: Capitalism and Schizophrenia Vol. 2*. Bloomsbury; London & New York.
- Demerit D** (1998) 'Science, Social Constructivism and Nature' in Braun B and Castree N (eds) *Remaking Reality: Nature at the Millennium* (Routledge; London & New York): 173-193.
- Dennis R** (1983) 'Population Studies and Conservation of Ospreys in Scotland,' in Bird D (ed) *Biology and Management of Bald Eagles and Ospreys* (Harpell Press; Montreal): 207-214
- Dennis R** (1991) *Ospreys*. Colin Baxter; Lanark.
- Dennis R** (1999) 'The Birds and Mammals of Rothiemurchus' in Smout C and Lambert R (eds) *Rothiemurchus: Nature and People on a Highland Estate, 1500-2000* (Scottish Cultural Press; Dalkeith): 22-31.
- Dennis R** (2008) *A Life of Ospreys*. Whittles Publishing; Caithness.

- Derrida J** (2006) *Specters of Marx: The State of the Debt, the Work of Mourning and the New International*. Routledge; London & New York.
- Derrida J, Brault P-A and Naas M** (1996) 'By Force of Mourning' *Critical Inquiry* **22**(2): 171-192.
- DeSilvey C** (2007a) 'Salvage memory: constellating material histories on a hardscrabble homestead' *Cultural Geographies* **14**(3): 401-424.
- DeSilvey C** (2007b) 'Practical remembrance: material and method in a recycled archive' in Gagen E, Lorimer H and Vasudevan A (eds) *Practising the Archive: Reflections on Method and Practice in Historical Geography*. Historical Geography Research Series **40**: 37-46.
- DeSilvey C and Edensor T** (2013) 'Reckoning with ruins' *Progress in Human Geography* **37**(4): 465-485.
- Despret V** (2004) 'The Body We Care For: Figures of Anthrozoogenesis' *Body & Society* **10**(2-3): 111-134.
- Despret V** (2005) 'Sheep Do Have Opinions' in Latour B and Weibel P (eds) *Making Things Public: Atmospheres of Democracy* (MIT Press; Cambridge MA & London): 360-369.
- Despret V** (2008) 'The becomings of subjectivity in animal worlds' *Subjectivity* **28**(1): 123-139.
- Despret V** (2013a) 'Responding bodies and partial affinities in human-animal worlds' *Theory, Culture & Society* **30**(7-8): 51-76.
- Despret V** (2013b) 'From Secret Agents to Interagency' *History and Theory* **52**(4): 29-44.
- Despret V** (2014) 'Domesticating practices: The case of Arabian babblers' in Marvin G and McHugh S (eds) *The Routledge Handbook of Human-Animal Studies* (Routledge; London & New York): 23-38.
- Dickie I, Hughes J and Esteban A** (2006) 'Watched like never before: the local economic benefits of spectacular bird species' A Report by the RSPB; The Lodge, Sandy [Accessed on 15/4/13 at [https://rspb.org.uk/Images/watchedlikeneverbefore\\_tcm9-133081.pdf](https://rspb.org.uk/Images/watchedlikeneverbefore_tcm9-133081.pdf)]
- Dixon C** (1898) *Lost and Vanishing Birds: Being a Record of some Remarkable Extinct Species and a Plea for some Threatened Forms*. John MacQueen; London.
- Dixon C** (1902) *Birds Nests: An Introduction to the Science of Oology*. Frederick A. Stokes Company; New York.\*
- Duncan J** (1999) 'Complicity and Resistance in the Colonial Archive: Some Issues of Method and Theory in Historical Geography' *Historical Geography* **27**: 119-128.
- Donaldson S and Kymlicka W** (2011) *Zoopolis: A Political Theory of Animal Rights*. Oxford University Press; Oxford & New York.
- Edensor T** (2007) 'Sensing the ruin' *The Senses and Society* **2**(2): 217-232.
- "Editorial"** (1964) *Scottish Birds* **3**(2): 57-72.
- Egan M** (2008) 'Toxic Knowledge: A Mercurial Fugue in Three Parts' *Environmental History* **13**(4): 636-642.

- Ellice E** (1898) *Place-Names in Glengarry and Glenquoich and Their Origin*. Swan Sonnenschein & Co.; London.\*
- Ellis R** (2011) 'Jizz and the joy of pattern recognition: Virtuosity, discipline and the agency of insight in UK naturalists' arts of seeing' *Social Studies of Science* **41**(6): 769-790.
- Emel J, Wilbert C and Wolch J** (2002) 'Animal Geographies' *Society & Animals* **10**(4): 407-412.
- Enloe C** (1983) *Does Khaki Become You? The Militarisation of Women's Lives*. Pluto Press; London.
- Enloe C** (2000) *Maneuvers: The International Politics of Militarizing Women's Lives*. University of California Press; Berkeley, Los Angeles & London.
- Enloe C** (2004) *The Curious Feminist: searching for women in a new age of empire*. University of California Press; Berkeley, Los Angeles & London.
- Evans I, Dennis R, Orr-Ewing D, Kjellén N, Andersson P, Sylvén M, Senosiain A and Carbo F** (1997) 'The re-establishment of Red Kite breeding populations in Scotland and England' *British Birds* **90**: 123-138.
- Evernden N** (1992) *The Social Creation of Nature*. The John's Hopkins Press; Baltimore MD & London.
- Ewins P** (1996) 'The Use of Artificial Nest Sites by an Increasing Population of Ospreys in the Canadian Great Lakes Basin' in Bird D, Varland D and Negro J (eds) *Raptors in Human Landscapes: Adaptions to Built and Cultivated Environments* (Academic Press; London): 109-123.
- Farber P** (1997) *Discovering Birds: The Emergence of Ornithology as a Scientific Discipline, 1760-1850*. Johns Hopkins University Press; Baltimore MD & London.
- Ferguson C** (1885) 'The Gaelic Names of Birds, Part 1' *Transactions of the Gaelic Society of Inverness* **11**: 240-260.\*
- Fitter R** (1962) 'Foreword' in Brown P and Waterston G (eds) *The Return of the Osprey* (Collins; London): 9-13.
- Forsyth I** (2014) 'Designs on the desert: camouflage, deception and the militarization of space' *Cultural Geographies* **21**(2): 247-265.
- Foucault M** (1978) *The History of Sexuality, Vol. 1: An Introduction*. Pantheon Books; New York.
- Foucault M** (2003) *Society must be Defended: Lectures at the Collège de France, 1975-1976*. Penguin; London.
- Foucault M** (2004) *The Birth of Biopolitics: Lectures at the Collège de France, 1978-1979*. Palgrave MacMillan; Basingstoke & New York.
- Foucault M** (2007) *Security, Territory, Population: Lectures at the Collège de France, 1977-1978*. Palgrave MacMillan; Basingstoke & New York.
- Foucault M and Gordon C** (1980) *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977*. Panthion Books; New York.
- Freud S** (1917) 'Mourning and Melancholia' in (1964) *The Standard Edition of the Complete Psychological Works of Sigmund Freud, Volume XIV (1914-1916): On the*

*History of the Psycho-Analytic Movement, Papers on Metapsychology and Other Works* (Hogarth Press; London): 237-258

**Friedricksen A** (2016) 'Of wildcats and wild cats: Troubling species-based conservation in the Anthropocene' *Environment and Planning D: Society & Space* **34**(4): 689-705.

**Fudge E** (2002a) 'A Left-Handed Blow: Writing the History of Animals' in Rothfels N (ed) *Representing Animals* (Indiana University Press; Bloomington IN and Indianapolis): 3-18.

**Fudge E** (2002b) *Animal*. Reaktion; London.

**Fudge E** (2013) 'Milking Other Men's Beasts' *History and Theory* **52**(4): 13-28.

**Gagen E, Lorimer H and Vasudevan A** (2007) 'Introductory Remarks' in Gagen E, Lorimer H and Vasudevan A (eds) *Practising the Archive: Reflections on Method and Practice in Historical Geography*. Historical Geography Research Series **40**: 1-8.

**Garlick B** (2015) 'Not all dogs go to heaven, some go to Battersea: sharing suffering and the 'Brown Dog affair'' *Social and Cultural Geography* **16**(7): 798-820.

**Garrett P** (2012) 'Dying Young: Pidgins, Creoles, and other Contact Languages as Endangered Languages' in Sodikoff G (ed) *The Anthropology of Extinction: Essays on Culture and Species Death* (Indiana University Press; Bloomington IN & Indianapolis): 143-162.

**Gibson J** (1986) *The Ecological Approach to Visual Perception*. Earlbaum; Hillsdale NJ & London.

**Gilbert G, Gibbons D and Evans J** (2011) *Bird Monitoring Methods: a manual of techniques for key UK species*. The Royal Society for the Protection of Birds/Pelagic; Sandy, Beds.

**Gillies M** (2011) *The Barbed Wire University: The Real Lives of Prisoners of War in the Second World War*. Aurum; London.

**Ginn F** (2014) 'Sticky lives: slugs, detachment and more-than-human ethics in the garden' *Transactions of the Institute of British Geographers* **39**(4): 532-544.

**Ginn F** (2016) *The Domestic Wild: Memory, Nature and Gardening in Suburbia*. Routledge; London.

**Ginn F, Beisel U and Barua M** (2014) 'Flourishing with Awkward Creatures: Togetherness, Vulnerability, Killing' *Environmental Humanities* **4**: 113-123.

**Gold J and Gold M** (1995) *Imagining Scotland: Tradition, representation and promotion in Scottish tourism since 1750*. Scolar Press; Aldershot

**Gordon A** (2008) *Ghostly Matters: Haunting and the Sociological Imagination*. University of Minnesota Press; Minneapolis & London.

**Gordon-Cumming R** (1915) *The Lion Hunter*. Nelson Doubleday; New York.\*

**Grant E** (1972) *Memoirs of a Highland Lady 1797-1827*. John Murray; London.

**Gray R** (1871) *The Birds of the West of Scotland Including the Outer Hebrides*. Thomas Murray & Son; Glasgow.\*

**Green R** (1976) 'Breeding Behaviour of Ospreys *Pandion haliaetus* in Scotland' *The Ibis* **118**(4): 475-490.

- Greenhough B** (2011) 'Assembling an Island Laboratory' *Area* **43**(2): 134-138.
- Greenhough B and Roe E** (2011) 'Ethics, Space, and Somatic Sensibilities: Comparing Relationships between Scientific Researchers and Their Human and Animal Experimental Subjects' *Environment and Planning D: Society & Space* **29**(1): 47-66.
- Greer K** (2009) 'Ornithology on 'The Rock': Territory, Fieldwork, and the Body in the Straits of Gibraltar in the Mid-Nineteenth Century' *Historical Geography* **37**: 26-52.
- Greer K and Cameron L** (2006) "'Swee-ee-et Cán-a-da, Cán-a-da, Cán-a-da": Sensuous Landscapes of Birdwatching in the Eastern Provinces, 1900-1939.' *Material Culture Review* **62**(Autumn 2006): 35-43.
- Gregson N, Watkins H and Calestani M** (2010) 'Inextinguishable Fibres: Demolition and the Vital Materialisms of Asbestos' *Environment and Planning A* **42**(5): 1065-1083.
- Griffith B, Scott J, Carpenter J and Reed C** (1993) 'Translocation as a Species Conservation Tool: Status and Strategy' *Science [New Series]* **245**(4917): 477-480.
- Grosz E** (2004) *The Nick of Time: Politics, evolution and the untimely*. Duke University Press; Durham NC & London
- Hansell M** (1984) *Animal Architecture and Building Behaviour*. Longman; London & New York.
- Hansell M** (1993) 'The Ecological Impact of Animal Nests and Burrows' *Functional Ecology* **7**(1): 5-12.
- Hansell M** (2000) *Bird Nests and Construction Behavior*. Cambridge University Press; Cambridge & New York.
- Hansell M** (2005) *Animal Architecture*. Oxford University Press; Oxford.
- Haraway D** (1991) *Simians, Cyborgs, and Women: The Reinvention of Nature*. Free Association Books; London.
- Haraway D** (1992) 'The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others' in Grossberg L, Nelson C, Treichler P (eds) *Cultural Studies* (Routledge; New York): 295-337.
- Haraway D** (1997) *Modest\_Witness@Second\_Millennium.FemaleMan@\_Meets\_Oncomouse™: Feminism and Technoscience*. Routledge; New York & London.
- Haraway D** (2004) *The Companion Species Manifesto: Dogs, People and Significant Otherness*. Prickly Paradigm Press; Chicago.
- Haraway D** (2006) 'Encounters with companion species: Entangling Dogs, Baboons, Philosophers and Biologists' *Configurations* **14**(1-2): 97-114.
- Haraway D** (2008) *When species meet*. University of Minnesota Press; Minneapolis & London.
- Haraway D** (2010) 'When Species Meet: Staying with the Trouble' *Environment and Planning D: Society & Space* **28**(1): 53-55.
- Haraway D** (24 March 2014) 'SF: String Figures, Multispecies Muddles, Staying with the Trouble' lecture given at the University of Alberta Faculty Club, Department of

Art & Design [Accessed on 20/3/2015 at: <http://www.youtube.com/watchv?=Z1uTVnhIHS8>].

**Haraway D** (2015) 'Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin' *Environmental Humanities* **6**: 159-165.

**Hardey J, Crick H, Wernham C, Riley H, Etheridge B and Thompson D** (2009) *Raptors: A Field Guide for Surveys and Monitoring (3<sup>rd</sup> Edition)*. The Stationary Office; Edinburgh & London.

**Harvey D** (1979) 'Monument and Myth' *Annals of the Association of American Geographers* **69**(3): 362-381.

**Harvie-Brown J** (1912) 'Notes And Queries: Causes of our Rare Breeding Birds disappearing.' *The Zoologist [4<sup>th</sup> Series]* **16** (849: March 15<sup>th</sup>, 1912): 112-114.

**Harvie-Brown J and Buckley T** (1887) *A Vertebrate Fauna of Sutherland, Caithness, and West Cromarty*. David Douglas; Edinburgh.\*

**Harvie-Brown J and Buckley T** (1895) *A Vertebrate Fauna of the Moray Basin, Volume II*. David Douglas; Edinburgh.\*

**Harvie-Brown J and MacPherson H** (1904) *A Fauna of the North-West Highlands and Skye*. David Douglas; Edinburgh.

**Hays G** (2014) 'Tracking animals to their death' *Journal of Animal Ecology* **83**(1): 5-6.

**Heatherington T** (2012) 'From Ecocide to Genetic Rescue: Can Technoscience Save the Wild?' in Sodikoff G (ed) *The Anthropology of Extinction: Essays on Culture and Species Death* (Indiana University Press; Bloomington IN & Indianapolis): 39-66.

**Heise U** (2003) 'From Extinction to Electronics: Dead Frogs, Live Dinosaurs, and Electric Sheep' in Wolfe C (ed) *Zoontologies: The Question of the Animal* (University of Minnesota Press; Minneapolis): 59-81.

**Hennessy E** (2015) 'The Molecular Turn in Conservation: Genetics, Pristine Nature, and the Rediscovery of an Extinct Species of Galapagos Giant Tortoise' *Annals of the Association of American Geographers* **105**(1): 87-104.

**Henny C and Kaiser J** (1996) 'Osprey Population Increase along the Willamette River, Oregon, and the Role of Utility Structures, 1976-93' in Bird D, Varland D and Negro J (eds) *Raptors in Human Landscapes: Adaptions to Built and Cultivated Environments* (Academic Press; London): 97-108.

**Hermann B and Woods W** (2010) 'Neither Biblical Plague Nor Pristine Myth- A Lesson from Central European Sparrows' *Geographical Review* **100**(2): 176-186.

**Herrick F** (1901) *The Home Life of Wild Birds: A New Method of the Study and Photography of Birds*. GP Putnam's Sons; New York & London.\*

**Higgins P, Jackson L and Jarvie G** (1997) "Deer Forests, Sporting Estates and the Aristocracy: Some Preliminary Observations" *Scottish Centre Research Papers in Sport, Leisure and Society* **2**: 32-52.

**Hickey J and Anderson D** (1968) 'Chlorinated Hydrocarbons and Eggshell Changes in Raptorial and Fish-Eating Birds' *Science* **162**(3850): 271-273.



- Hinchliffe S** (2001) 'Indeterminacy in-decisions – science, policy and politics in the BSE (Bovine Spongiform Encephalopathy) crisis' *Transactions of the Institute of British Geographers* **26**(2): 182-204.
- Hinchliffe S** (2003) "Inhabiting' – Landscapes and Natures' in Anderson K, Domosh M, Pile S and Thrift N (eds) *The Handbook of Cultural Geography* (Sage; London): 207-226.
- Hinchliffe S** (2007) *Geographies of Nature: societies, environments and ecology*. Sage; London, Dehli, Los Angeles & Singapore.
- Hinchliffe S** (2008) 'Reconstituting nature conservation: Towards a careful political ecology' *Geoforum* **39**(1): 88-97.
- Hinchliffe S** (2010) 'Where species meet' *Environment and Planning D: Society & Space* **28**(1): 34-35.
- Hinchliffe S, Allen J, Lavau S, Bingham N and Carter S** (2013) 'Biosecurity and the topologies of infected life: from borderlines to borderlands' *Transactions of the Institute of British Geographers* **38**(4): 531-543.
- Hinchliffe S and Bingham R** (2008) 'Securing Life: The Emerging Practices of Biosecurity' *Environment and Planning A* **40**(7): 1534-1551
- Hinchliffe S, Kearns M, Degen M and Whatmore S** (2005) 'Urban Wild Things: A Cosmopolitical Experiment' *Environment and Planning D: Society & Space* **23**(5): 643-658.
- Hinchliffe S and Whatmore S** (2006) "Living Cities: Towards a Politics of Conviviality" *Science as Culture* **15**(2): 123-138.
- Hitchings R** (2003) 'People, plants and performance: On actor network theory and the material pleasures of the private garden' *Social & Cultural Geography* **4**(1): 99-114
- Hird M** (2010a) 'Meeting with the microcosmos' *Environment and Planning D: Society and Space* **28**(1): 36-38.
- Hird M** (2010b) 'Coevolution, Symbiosis and Sociology' *Ecological Economics* **69**(4): 737-742.
- Hodgetts T and Lorimer J** (2014) 'Methodologies for animals' geographies: cultures, communication and genomics' *Cultural Geographies* **22**(2): 285-295
- Holinshed R** (1807) *Holinshed's Chronicles Of England, Scotland and Ireland, in Six Volumes: Volume 1, England*. Printed for J Johnson, F.C. and J. Rivington, T. Payne, Wilkie and Robinson, Longman, Hurst, Rees and Orme, Cadell and Davies, and J. Mawman; London.\*
- Holmberg T and Ideland M** (2010) 'Secrets and lies: "selective openness" in the apparatus of animal experimentation' *Public Understanding of Science* **21**(3): 354-368.
- Hosking E and Newberry C** (1943) *Intimate Sketches from Bird Life*. Country Life Ltd; London.
- Howell P** (2015) *At Home and Astray: The Domestic Dog in Victorian Britain*. University of Virginia Press; Charlottesville VA.

- Hustak C and Myers N** (2012) 'Involutionary Momentum: Affective Ecologies and the Sciences of Plant/Insect Encounters' *differences: A Journal of Feminist Cultural Studies* **25**(3): 74-118.
- Ihde D** (2002) *Bodies in Technology*. University of Minnesota Press; Minneapolis & London.
- Ingold T** (1994) 'Preface to the paperback edition' in Ingold T (ed) *What is an animal?* (Routledge; London & New York): xvii-xxiv
- Ingold T** (2000) *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. Routledge; London & New York.
- Ingold T** (2006) 'Rethinking the Animate, Re-Animating Thought' *Ethnos* **71**(1): 9-20.
- Ingold T** (2007) 'Materials against materiality' *Archaeological Dialogues* **14**(1): 1-16.
- Ingold T** (2008) 'When ANT meets SPIDER: Social theory for arthropods' in Knappett C and Malafouris L (eds) *Material Agency: Towards a Non-Anthropocentric Approach* (Springer; New York): 209-215.
- Ingold T** (2010) 'Bringing Things to Life: Creative Entanglements in a World of Materials' *NCRM Working Paper 05/10* [Accessed on 12 December 2013 at [http://eprints.ncrm.ac.uk/1306/1/0510\\_creative\\_entanglements.pdf](http://eprints.ncrm.ac.uk/1306/1/0510_creative_entanglements.pdf)]
- Ingold T** (2011) *Being Alive: Essays on movement, knowledge and description*. Routledge; London & New York.
- Jamieson C** (2012) *Silent Spring Revisited*. Bloomsbury; London
- Jardine W** (1838) *The Naturalist's Library, Ornithology Vol. IX, Birds of Great Britain and Ireland Part 1: Birds of Prey*. W.H Lizars; Edinburgh.\*
- Johnson E** (2015) 'Of Lobsters, Laboratories, and War: Animal Studies and the Temporality of More-Than-Human Encounters' *Environment and Planning D: Society & Space* **33**(2): 296-313.
- Johnston C** (2008) 'Beyond the clearing: towards a dwelt animal geography' *Progress in Human Geography* **32**(5): 633-649.
- Jones O** (2000) '(Un)ethical geographies of human-non-human relations: Encounters, collectives and spaces' in Philo C and Wilbert C (eds) *Animal Spaces, Beastly Places: new geographies of human-animal relations* (Routledge; London): 268-291.
- Jones O** (2015) "'Not Promising a Landfall ...": An Autotopographical Account of Loss of Place, Memory and Landscape' *Environmental Humanities* **6**: 1-27.
- Jolly W** (1881) 'A Second Glance at the Osprey in the Highlands' *Good Words* **1881**(1): 336-339.\*
- Jourdain, F** (1911) 'Notes and Queries: One of the Causes of our Rare Birds disappearing.' *The Zoologist [4<sup>th</sup> Series]* **15** (845: November, 1911): 435
- Jourdain, F** (1912) 'Notes And Queries: Causes of our Rare Breeding Birds disappearing.' *The Zoologist [4<sup>th</sup> Series]* **16** (848: February 15th, 1912): 74-77.
- Kean H** (1998) *Animal Rights: Political and Social Change in Britain Since 1800*. Reaktion; London.
- Kean H** (2012) 'Challenges for Historians Writing Animal-Human History: What Is Really Enough?' *Anthrozoös* **25**(supplement): 57-72

- Kearton R** (1899) *Our Rarer British Birds: Their Nests, Eggs and Summer Haunts*. Cassell and Company; London, Paris, New York & Melbourne.\*
- Kearton R and Kearton C** (1898) *Nature and a Camera: Being the Adventures and Observations of a Field Naturalist and an Animal Photographer*. Cassell and Company; London, Paris, New York & Melbourne.\*
- Kearton R and Kearton C** (1899) *Wild Life at Home: How to Study and Photograph It*. Cassell and Company; London, Paris, New York, Melbourne.\*
- Kelly-Gadol J** (1977) 'Did Women have a Renaissance?' in Bridenthal R, Koonz C and Stuard S (eds) (1987) *Becoming Visible: Women in European History* (Houghton Mifflin; Boston): 175-201.
- Kirk K** (2013) 'The Nest Builder' *Dumfries and Galloway Life* **67**(June 2013): 48-51.
- Kirksey E** (2015) *Emergent Ecologies*. Duke University Press; Durham NC & London.
- Kohn E** (2013) *How Forests Think: Towards an Anthropology Beyond the Human*. University of California Press; Berkeley CA & London.
- Krupar S** (2007) 'Where Eagles Dare: An Ethno-Fable With Personal Landfill' *Environment and Planning D: Society & Space* **25**(2): 194-212.
- Krupar S** (2013) *Hot Spotter's Report: Military Fables of Toxic Waste*. University of Minnesota Press; London & Minneapolis.
- Laland K, Odling-Smee J and Feldman M** (2000) 'Niche construction, biological evolution, and cultural change' *Behavioral and Brain Sciences* **23**(1): 131-175.
- Lambert R** (1999) 'In Search of Wilderness, Nature and Sport: The Visitor to Rothiemurchus, 1780-2000' in Smout C and Lambert R (eds) *Rothiemurchus: Nature and People on a Highland Estate, 1500-2000* (Scottish Cultural Press; Edinburgh): 32-59.
- Lambert R** (2001) *Contested Mountains: Nature, Development and Environment in the Cairngorms Region of Scotland, 1880-1980*. White Horse Press; Cambridge.
- Lambert R** (2011) 'Strangers in a Familiar Land: The Return of the Native 'Aliens' and the Re-Wilding of Britain's Skies, 1850-2010' in Rotherham D and Lambert R (eds) *Invasive and Introduced Plants and Animals: Human Perceptions, Attitudes and Approaches to Management* (Earthscan; London & Washington DC): 169-184.
- Latour B** (1987) *Science in Action: How to follow scientists and engineers through society*. Harvard University Press; Cambridge MA & London
- Latour B** (1988) *The Pasteurization of France*. Harvard University Press; Cambridge MA & London.
- Latour B** (1991) *We Have Never Been Modern*. Harvard University Press; Cambridge MA.
- Latour B** (1992) 'Where Are the Missing Masses? The Sociology of a Few Mundane Artefacts' in Bijker W and Law J (eds) *Shaping Technology* (MIT Press; Cambridge MA): 225-258.
- Latour B** (1996) *Aramis or The Love of Technology*. Harvard University Press; Cambridge MA & London.
- Latour B** (1999) *Pandora's Hope: Essays of the Reality of Science Studies*. Harvard University Press; Cambridge CA & London.

- Latour B** (2004a) "How to talk about the body? The normative dimension of Science Studies" *Body & Society* **10**(2-3): 205-229.
- Latour B** (2004b) *Politics of Nature: How to Bring the Sciences into Democracy*. Harvard University Press; Cambridge MA & London.
- Latour B** (2004c) 'Which protocol for the new collective experiments? (Translated by Gustav Roßler)' in Schmidgen H, Geimer P and Dierig S (eds) *Kultur im Experiment* (Berlin; Kadmos Verlag): 17-36.
- Latour B** (2004d) 'Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern' *Critical Inquiry* **30**(2): 225-248.
- Latour B** (2005a) 'From realpolitik to dingpolitik or how to make things public' in Latour B and Weibel P (eds) *Making Things Public* (MIT University Press; Cambridge MA): 14-42.
- Latour B** (2005b) *Reassembling the Social: An Introduction to Actor-Network Theory*. Oxford University Press; Oxford & New York.
- Latour B** (2010) 'An attempt at a 'compositionist manifesto'' *New Literary History* **41**(3): 471-490.
- Law J** (2004) *After Method: Mess in the Social Sciences*. Sage; London & New York.
- Law J and Lynch M** (1988) 'Lists, Field Guides, and the Descriptive Organisation of Seeing: Birdwatching as an exemplary observational activity' *Human Studies* **11**(2): 271-303.
- Law J and Mol A** (2008) 'Globalisation in practice: On the politics of boiling pigswill' *Geoforum* **39**(1): 133-143.
- Legg S** (2011) 'Assemblage/apparatus: using Deleuze and Foucault' *Area* **43**(2): 128-133.
- Lestel D** (2002) 'The biosemiotics and phylogenesis of culture' *Biology and social life* **41**(1): 35-68.
- Lestel D, Bussolini J and Chrulew M** (2014) 'The Phenomenology of Animal Life' *Environmental Humanities* **5**: 125-148.
- Lister-Kaye J** (1994) *Ill Fares The Land: A Sustainable Land Ethic For the Sporting Estates of the Highlands and Islands of Scotland*. SNH Occasional Paper No. 3. Scottish Natural Heritage; Edinburgh.
- Lintot S** (2006) 'Toward Eco-Friendly Aesthetics' *Environmental Ethics* **28**(1): 57-76.
- Lockie J and Ratcliffe D** (1964) 'Insecticides and Scottish Golden Eagles' *British Birds* **57**(3): 89-102.
- Lorenz K** (1972) *King Solomon's Ring*. Signet; New York.
- Lorimer H** (2000) 'Guns, game and the grandee: The cultural politics of deerstalking in the Scottish highlands' *Ecumene* **7**(4): 403-431.
- Lorimer H** (2003) 'Telling small stories: spaces of knowledge and the practice of geography' *Transactions of the Institute of British Geographers* **28**(2): 197-217.
- Lorimer H** (2006) 'Herding memories of humans and animals' *Environment and Planning D: Society & Space* **24**(4): 497-518.

- Lorimer H** (2007) 'Songs from before: shaping the conditions for appreciative listening' in Gagen E, Lorimer H and Vasudevan A (eds) *Practising the Archive: Reflections on Method and Practice in Historical Geography*. Historical Geography Research Series **40**: 57-73.
- Lorimer H** (2008) 'Cultural geography: non-representational conditions and concerns' *Progress in Human Geography* **32**(4): 551-559.
- Lorimer H** (2010a) 'Forces of Nature, Forms of Life: Calibrating Ethology and Phenomenology' in Anderson B and Harrison P (eds) *Taking-Place: Non-Representational Theories and Geography* (Ashgate; Surrey): 55-78.
- Lorimer H** (2010b) 'Caught in the Nick of Time: Archives and Fieldwork' in DeLyser D, Herbert S, Aitken S, Crang M and McDowell L (eds) *The Sage Handbook of Qualitative Geographies* (Sage; London): 248-273.
- Lorimer H** (2014) 'Homeland' *Cultural Geographies* **21**(4): 583-604.
- Lorimer H and Lund K** (2003) 'Performing facts: finding a way over Scotland's mountains' in Szerzynski B, Heim W and Waterton C (eds) *Nature Performed: Environment, Culture and Performance* (Blackwell; Oxford): 130-144.
- Lorimer J** (2006) 'What about the nematodes? Taxonomic partialities in the scope of UK biodiversity conservation' *Social and Cultural Geography* **7**(4): 539-558.
- Lorimer J** (2007) 'Nonhuman Charisma' *Environment and Planning D: Society & Space* **25**(5): 911-932.
- Lorimer J** (2008) 'Counting Corncrakes: The Affective Science of the UK Corncrake Census' *Social Studies of Science* **38**(3): 377-405.
- Lorimer J** (2010a) 'Elephants as companion species: the lively biogeographies of Asian elephant conservation in Sri Lanka' *Transactions of the Institute of British Geographers* **35**(4): 491-506.
- Lorimer J** (2010b) 'Moving image methodologies for more-than-human geographies' *Cultural Geographies* **17**(2): 237-258.
- Lorimer J** (2010c) 'Ladies and gentlemen, behold the enemy!' *Environment and Planning D: Society & Space* **28**(1): 40-42.
- Lorimer J** (2012) 'Multinatural geographies for the Anthropocene' *Progress in Human Geography* **36**(5): 593-612.
- Lorimer J** (2014) 'On Auks and Awkwardness' *Environmental Humanities* **4**: 195-205.
- Lorimer J** (2015) *Wildlife in the Anthropocene: Conservation after nature*. University of Minnesota Press; Minneapolis & London.
- Lorimer J and Driessen C** (2013) 'Bovine biopolitics and the promise of monsters in the rewilding of Heck cattle' *Geoforum* **48**: 249-259.
- Lorimer J and Driessen C** (2014) 'Wild experiments at the Oostvaardersplassen: rethinking environmentalism in the Anthropocene' *Transactions of the Institute of British Geographers* **39**(2): 169-181.
- Lorimer J and Whatmore S** (2009) 'After the 'king of beasts': Samuel Baker and the embodied historical geographies of elephant hunting in mid-nineteenth-century Ceylon' *Journal of Historical Geography* **35**: 668-689.

- Love J** (1983) *The Return of the Sea Eagle*. Cambridge University Press; London.
- Lovegrove R** (2007) *Silent Fields: The long decline of a nation's wildlife*. Oxford University Press; Oxford & New York.
- Lovelock J** (2000) *Gaia: A New Look at Life on Earth*. Oxford University Press; Oxford & New York.
- Lulka D** (2004) 'Stabilizing the herd: fixing the identity of nonhumans' *Environment and Planning D: Society & Space* **22**(3): 439-463.
- Lulka D** (2009) 'The Residual Humanism of Hybridity: Retaining a Sense of the Earth' *Transactions of the Institute of British Geographers* **34**(3): 378-393.
- MacCulloch J** (1824) *The Highlands and Western Isles of Scotland*. Longman, Hurst, Rees, Orme, Brown and Green; London.\*
- MacDonald F** (2003) *Geographies of Vision and Modernity: things seen in the Scottish Highlands*. Unpublished DPhil thesis; University of Oxford.
- MacDonald F** (2014) 'The ruins of Erskine Beveridge' *Transactions of the Institute of British Geographers* **39**(4): 477-489.
- Macdonald H** (2002) 'What makes you a scientist is the way you look at things': ornithology and the observer 1930-1955' *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* **33**(1): 53-77.
- Macdonald H** (2014) *H is for Hawk*. Jonathan Cape: London.
- MacKenzie O** (2012) *A Hundred Years in the Highlands*. Birlinn; Edinburgh.
- Mackrill T** (2012) *The Rutland Water Ospreys*. Bloomsbury; London & New York.
- MacMillan H** (1907) *Rothiemurchus*. JM Dent & Co.; London.\*
- Marchant J and Watkins W** (1897) *The Wild Bird Protection Acts: 1880-1896*. R.H. Porter; London.\*
- Marcus G and Saka E** (2006) 'Assemblage' *Theory, Culture & Society* **23**(2-3): 101-106.
- Margulis L and Sagan D** (2002) *Acquiring Genomes: A Theory of the Origins of Species*. Basic Books; New York.
- Marks J** (2006) 'Molecular Biology in the Work of Deleuze and Guattari' *Paragraph* **29**(2): 81-97.
- Markusen A** (1991) 'The military-industrial divide' *Environment and Planning D: Society & Space* **9**(4): 391-416
- Marston S, Jones J and Woodward K** (2005) 'Human geography without scale' *Transactions of the Institute of British Geographers* **30**(4): 416-432.
- Martin J** (2011) 'Forum: When sharks (don't) attack: wild animal agency in historical narratives' *Environmental History* **16**(3): 451-455.
- Massey D** (2005) *For space*. Sage; London, Thousand Oaks CA & New Dehli.
- Matless D** (2000a) 'Versions of animal-human: Broadland, c.1945-1970' in Philo C and Wilbert C (eds) *Animal spaces, beastly places: new geographies of human-animal relations* (Routledge; London & New York): 115-140.

- Matless D** (2000b) 'Action and Noise Over a Hundred Years: The Making of a Nature Region' *Body & Society* **6**(3-4): 141-165.
- Matless D, Merchant P and Watkins C** (2005) 'Animal landscapes: otters and wildfowl in England 1945-1970' *Transactions of the Institute of British Geographers* **30**(2): 191-205.
- Mayr E** (1996) 'What Is a Species, and What Is Not?' *Philosophy of Science* **63**(2): 262-277.
- McGhie H** (1999) 'Persecution of birds of prey in north Scotland as evidenced by taxidermists' stuffing books' *Scottish Birds* **20**(2): 98-110.
- McGowan R** (2009) 'The decline of the Scottish Ospreys: who was to blame?' *Scottish Birds* **29**(1): 55-58.
- McKiernan S and Instone L** (2015) 'From pest to partner: rethinking the Australian White Ibis in the more-than-human city' *Cultural Geographies* [Published online before print, doi: 10.1177/1474474015609159].
- McLeish C** (2010) 'Opening up the secret city of Stepnogorsk: biological weapons in the Former Soviet Union' *Area* **42**(1): 60-69.
- Meinertzhagen R** (1954) 'Short Communications: The Education of Young Ospreys' *Ibis* **96**: 153-155.
- Metcalf J** (2008) 'Intimacy without Proximity: Encountering Grizzlies as Companion Species' *Environmental Philosophy* **5**(2): 99-128.
- Meurk C** (2010) 'Recombinant ecologies of urban areas: Characterisation, context and creativity' in Douglas I, Goode D, Houck M and Wang R (eds) *The Routledge Handbook of Urban Ecology* (Routledge: London & New York): 198-220.
- Meyburg B-U, Manowsky O and Meyburg C** (1996) 'The Osprey in Germany: Its Adaption to Environments Altered by Man' in Bird D, Varland D and Negro J (eds) *Raptors in Human Landscapes: Adaptions to Built and Cultivated Environments* (Academic Press; London): 125-135.
- Michel S** (1998) 'Golden Eagles and the Environmental Politics of Care' in Wolch J and Emel J (eds) *Animal Geographies: Place, Politics, and Identity in the Nature-Culture Borderlands* (Verso; London & New York): 162-187.
- Michelet J** (1869) *The Bird*. T Nelson & Sons; London.
- Midgely M** (1988) 'Beasts, Brutes and Monsters' in Ingold T (ed) *What is an Animal?* (Routledge; London): 35-46.
- Mills S** (2013) 'Cultural-Historical Geographies of the Archive: Fragments, Objects and Ghosts' *Geography Compass* **7**(10): 701-713.
- Mitchell T** (2002) *Rule of Experts: Egypt, Techno-politics, Modernity*. University of California Press; Berkley CA & London.
- Mitman G** (1996) 'When Nature is the Zoo: Vision and Power in the Art and Science of Natural History' *Osiris* **11**: 117-143.
- Mol A** (1999) 'Ontological politics: A word and some questions' in Law J and Hassard J (eds) *Actor Network Theory and After* (Blackwell Publishers/The Sociological Review; Oxford & Malden MA): 74-89.

- Mol A** (2002) *The body multiple: Ontology in medical practice*. Duke University Press; Durham NC & London.
- Monbiot G** (2013) *Feral: Searching for Enchantment on the Frontiers of Rewilding*. Allen Lane; London.
- Montagu G** (1831) *The Dictionary of Ornithology* [2<sup>nd</sup> Ed.]; **Morris F** (1851) *A History of British Birds: Volume 1*. Hirst, Chance & Co.; London.\*
- Moore F** (2010) 'Tales from the archive: methodological and ethical issues in historical geography research' *Area* **42**(3): 262-270.
- More A** (1865) 'On the Distribution of Birds in Great Britain during the Nesting-season' *Ibis* **7**(2): 119-142.
- Morris F** (1851) *A History of British Birds: Vol. 1*. Groombridge and Sons; London.\*
- Morris N** (2011) 'Night walking: darkness and sensory perception in a night- time landscape installation' *Cultural Geographies* **18**(3): 315-342.
- Moss S** (2004) *A Bird in the Bush: A Social History of Birdwatching*. Aurum Press; London.
- Nally D** (2010) 'The biopolitics of food provisioning' *Transactions of the Institute of British Geographers* **36**(1): 37-53.
- Nance S** (2013) *Entertaining Elephants: Animal Agency and the Business of the American Circus*. Johns Hopkins University Press; Baltimore.
- Nethersole-Thompson D** (1951) *The Greenshank*. Collins; London.
- Nethersole-Thompson D** (1966) *The Snow Bunting*. Oliver & Boyd; Edinburgh & London.
- Newton I** (1979) *Population Ecology of Raptors*. T&A Poyser; Birkhamsted.
- Nicholson M** (1932) *The Art of Birdwatching*. Charles Scribener's Sons; New York.
- Nixon R** (2011) *Slow Violence and the Environmentalism of the Poor*. Harvard University Press; Cambridge MA & London.
- Österlöff S** (1977) 'Migration, Wintering Areas, and Site Tenacity of the European Osprey *Pandion h. haliaetus* (L.)' *Ornis Scandinavica* **8**(1): 61-78.
- Owen J and Taylor S** (1989) '*Haploglossa picipennis* (Gyllenhal) (Col.: Staphylinidae) in Ospreys' Nests' *Entomologist's Record* **101**: 53-55.
- Palmer C** (2003) 'Placing Animals in Urban Environmental Ethics' *Journal of Social Philosophy* **34**(1): 64-78.
- Palmer C** (2010) *Animal Ethics in Context*. Colombia University Press; New York.
- Pearson W** (1987) *The Osprey, Calologists' Series: No. 7*. Oriel Stringer; Brighton.
- Pennant T** (1771) *A Tour In Scotland*. John Monk; Chester.\*
- Pennant T** (1790) *A Tour in Scotland and Voyage to the Hebrides (Part 1)*. Benj. White; London.\*
- Perley B** (2012) 'Last Words, Final Thoughts: Collateral Extinctions in Maliseet Language Death' in Sodikoff G (ed) *The Anthropology of Extinction: Essays on Culture*



and *Species Death* (Indiana University Press; Bloomington IN & Indianapolis): 127-142.

**Peterson R** (1969) 'The Osprey: Endangered World Citizen' *National Geographic* (July 1969): 53-66.

**Phillips J** (2006) 'Agencement/Assemblage' *Theory, Culture & Society* **23**(2-3): 108-109.

**Philo C** (1995) 'Animals, Geography and the City: Notes on Inclusions and Exclusions' *Environment and Planning D: Society & Space* **13**(6): 655-681.

**Philo C** (2005) 'Spacing Lives and Lively Spaces: Partial Remarks on Sarah Whatmore's Hybrid Geographies' *Antipode* **37**(4): 824-833.

**Philo C and Wilbert C** (2000) 'Animal spaces, beastly places: an introduction' in Philo C and Wilbert C (eds) *Animal spaces, beastly places: new geographies of animal-human relations* (Routledge; London): 1-34.

**Pile S** (2005) *Real Cities: Modernity, Space and the Phantasmagorias of City Life*. London; Sage.

**Poole A** (1981) 'The Effects of Human Disturbance on Osprey's Reproductive Success' *Colonial Waterbirds* **4**(1981): 20-27.

**Poole A** (1989) *Ospreys: A Natural and Unnatural History*. Cambridge University Press; Cambridge.

**Postupalsky S** (1973) Raptor Reproductive Success: Some Problems with Methods, Criteria, and Terminology' in Hamerstrom F, Harrel B and Olendorff R (eds) *Management of Raptors: Proceedings of the Conference on Raptor Conservation Techniques, Fort Collins, Colorado, 22-24 March, 1973 [Part 4]* (Raptor Research Foundation; Vermillion SD): 21-31.

**Pratt M** (2007) *Imperial Eyes: Travel Writing and Transculturation*. Routledge; London & New York.

**Prestt I, Jefferies D, and Moore N** (1970) 'Polychlorinatebiphenyls in wild birds in Britain and their avian toxicity' *Environmental Pollution* **1**: 3-26.

**Pringle T** (1989) 'The privation of history: Landseer Victoria and the Highland myth' in Cosgrove D and Daniels S (eds) *The Iconography of Landscape* (Cambridge University Press; Cambridge): 142-161.

**Prior J and Brady E** (forthcoming) 'Environment Aesthetics and Rewilding' *Environmental Values* [Accessed ahead of print at: <http://www.whpress.co.uk/EV/papers/Prior.pdf>]

**Prior P and Schaffner S** (2011) 'Bird Identification as a Family of Activities: Motives, Mediating Artefacts, and Laminated Assemblages' *Ethos* **39**(1): 51-70.

**Proctor J** (1998) 'The Spotted Owl and the Contested Moral Landscape of the Pacific Northwest' in Wolch J and Emel J (eds) *Animal Geographies: Place, Politics, and Identity in the Nature-Culture Borderlands* (Verso; London & New York): 191-217.

**Protevi J** (2012) 'Deleuze and Life' in Smith D and Somers-Hall H (eds) *The Cambridge Companion to Deleuze* (Cambridge University Press; Cambridge & New York): 239-264.

- Provost Y** (1982) *The Wintering Ecology of Ospreys in Senegambia*. University of Edinburgh, PhD Thesis.
- Pullar P** (2001) *Dancing with ospreys (Illustrated by Keith Brockie)*. Crachan Press; Aberfeldy.
- Rabinow P and Rose N** (2003) 'Foucault Today' in Rabinow P and Rose N (eds) *The Essential Foucault: Selections from the Essential Works of Foucault, 1954-1984* (New Press; New York): vii-xxxv.
- Ratcliffe D** (1963) 'The status of the Peregrine in Great Britain' *Bird Study* **10**(2): 56-90.
- Ratcliffe D** (1965) 'The Peregrine Situation in Great Britain 1963-64' *Bird Study* **12**(2): 66-82.
- Ratcliffe D** (1967a) 'Decrease in Eggshell Weight in Certain Birds of Prey' *Nature* **215**(July 8): 208-210.
- Ratcliffe D** (1967b) 'The Peregrine situation in Great Britain 1965-66.' *Bird Study* **14**(4): 238-246.
- Ratcliffe D** (1970) 'Changes Attributable to Pesticides in Egg Breakage Frequency and Eggshell Thickness in Some British Birds' *Journal of Applied Ecology* **7**(1): 67-115.
- Reinert H** (2013) 'The Care of Migrants: Telemetry and the Fragile Wild' *Environmental Humanities* **3**: 1-24.
- Reinert H** (2015) 'The Landscape Concept as Rupture - Extinction and Perspective in a Norwegian Fjord' in Sooväli-Sepping H, Reinert H and Miles-Watson, J (eds) *Ruptured Landscape: Landscape, Identity and Social Change* (Springer; New York & London): 41-54.
- Rewilding Britain** (2015) 'Rewilding' [Accessed on 28 August 2015 at <http://www.rewildingbritain.org.uk/rewilding/>]
- Riley M and Harvey D** (2007) 'Oral histories, farm practice and uncovering meaning in the countryside' *Social & Cultural Geography* **8**(3): 391-415.
- Ritchie J** (1920) *The Influence of Man on Animal Life in Scotland*. Cambridge University Press; London.\*
- Robinson J** (2013) 'Darkened surfaces': camouflage and the nocturnal observation of Britain, 1941-45' *Environment and Planning A* **45**(5): 1053-1069.
- Robinson P** (1982) *Bird Detective*. Elm Tree Books; London.
- Robinson S** (2011) *Nesting: Body, Dwelling, Mind*. William Stout Publishers; Richmond, CA.
- Rose M and Wylie J** (2006) 'Animating landscape' *Environment and Planning D: Society & Space* **24**(4): 475-479.
- Ross B and Amter S** (2010) *The Polluters: The Making of Our Chemically Altered Environment*. Oxford University Press; Oxford & New York.
- Roth M** (1997) 'Irresistable decay: ruins reclaimed' in Roth M, Lyons C and Merewether C (eds) *Irresistable decay: ruins reclaimed* (The Getty Research Institute; Los Angeles): 1-23.

- Russell E** (1999) 'The Strange Career of DDT: Experts, Federal Capacity and Environmentalism in World War II' *Technology and Culture* **40**(4): 770-796.
- Ryan J** (2000) 'Hunting with the camera: Photography, wildlife and colonialism in Africa' in Philo C and Wilbert C (eds) *Animal spaces, beastly places: new geographies of human-animal relations* (Routledge; London & New York): 203-221.
- Sandrisser B** (1994) 'Valuing the ordinary: The poetics of wood in traditional japan' *The Journal of Value Inquiry* **28**(2): 281-295.
- Schivelbusch W** (1995) *Disenchanted Night: The Industrialization of Light in the Nineteenth Century*. University of California Press; Berkley CA & London.
- Schneider J** (2005) *Donna Haraway: Live Theory*. Continuum; New York & London.
- Seager J** (1993) *Earth Follies: Feminism, politics and the environment*. Earthscan; London.
- Sehgal M** (2014) 'Diffractive Propositions: Reading Alfred North Whitehead with Donna Haraway and Karen Barad' *Parallax* **20**(3) 188-201.
- Sheail J** (1985) *Pesticides and Nature Conservation: The British Experience 1950-1975*. Clarendon; Oxford.
- Sheail J** (2013) 'Pesticides and the British Environment: An Agricultural Perspective' *Environment and History* **19**(1): 87-108.
- Shrubbs M** (2013) *Feasting, fowling and feathers: a history of the exploitation of wild birds*. T & AD Poyser; London.
- Simmel G** (1906) 'The Sociology of Secrecy and of Secret Societies' *American Journal of Sociology* **11**(4): 441-498.
- Simpson W** (1937) 'Lochaneilean Castle, Inverness-shire' *Antiquarian's Journal* **17**(1937): 56-62.
- Sloterdijk P** (2009) 'Airquakes' *Environment and Planning D: Society & Space* **27**(1): 41-57.
- Smith M** (2013) 'Ecological Community, the Sense of the World, and Senseless Extinction' *Environmental Humanities* **2**(1): 21-41.
- Smout C** (1982) 'Tours in the Scottish Highlands from the eighteenth to the twentieth centuries' *North Scotland* **5**(1): 99-121.
- Smout C** (1999) 'The Grant Lairds of Rothiemurchus' in Smout C and Lambert R (eds) *Rothiemurchus: Nature and People on a Highland Estate, 1500-2000* (Scottish Cultural Press; Dalkeith): 14-21.
- Smout C** (2000) *Nature Contested: Environmental History in Scotland and Northern England Since 1600*. Edinburgh University Press; Edinburgh.
- Smuts B** (2001) 'Encounters with animal minds' *Journal of Consciousness Studies* **8**(5-7): 293-309.
- Sodikoff G** (2012) 'Accumulating Absence: Cultural Productions of the Sixth Extinction' in Sodikoff G (ed) *The Anthropology of Extinction: Essays on Culture and Species Death* (Indiana University Press; Bloomington IN & Indianapolis): 1-16.
- Sontag S** (1979) *On Photography*. Penguin; London.

- Soulé M and Noss R** (1998) 'Rewilding and biodiversity as complementary tools for continental conservation.' *Wild Earth* **Fall**: 18-28.
- Spencer T and Whatmore S** (2001) 'Editorial: Bio-geographies: putting life back into the discipline' *Transactions of the Institute of British Geographers* **26**(2): 139-141.
- Spivak G** (1985) 'Subaltern studies: Deconstructing historiography' in Landry D and MacLean G (1996) (eds) *The Spivak reader* (Routledge; London & New York): 203-235.
- Srinivasan K** (2013) 'The biopolitics of animal being and welfare: dog control and care in the UK and India' *Transactions of the Institute of British Geographers* **38**(1): 106-119
- Srinivasan K** (2014) 'Caring for the collective: biopower and agential subjectification in wildlife conservation' *Environment and Planning D: Society & Space* **32**(3): 501-517.
- Srinivasan K** (2016) 'Towards a political animal geography?' *Political Geography* **50**: 76-78.
- St. John C** (1863) *Natural History and Sport in Moray: Collected from the Journals and Letters of the Charles St. John*. Edmonston and Douglas; Edinburgh.\*
- St. John C** (1884) *A Tour in Sutherland with Extracts from the Field Books of a Sportsman and a Naturalist, Vol. 1 (2<sup>nd</sup> Edition)*. David Douglas; Edinburgh.\*
- St. John C** (1919) *Wild Sports and Natural History of the Highlands*. TN Foulis; London & Edinburgh.\*
- Steinberg M** (2010) 'Avifaunal research and geographical perspectives' *Geographical Review* **100**(2): iii-iv.
- Stengers I** (2005) 'The Cosmopolitical Proposal' in Latour B and Weibel P (eds) *Making Things Public: Atmospheres of Democracy* (MIT Press; Cambridge MA & London): 994-1005.
- Stengers I** (2010) 'Including Nonhumans in Political Theory: Opening Pandora's Box?' in Braun B and Whatmore S (eds) *Political Matter: Technoscience, Democracy, and Public Life* (University of Minnesota Press; Minneapolis & London): 3-33.
- Stewart K** (1996) *A Space on the Side of the Road: Cultural Poetics in an "Other" America*. Princeton University Press; New Jersey.
- Strathern M** (1996) 'Cutting the network' *Journal of the Royal Anthropological Institute* **2**(3): 517-535.
- Swanton D** (2012) 'Afterimages of Steel: Dortmund' *Space and Culture* **15**(4): 264-282.
- Swanton D** (2013) 'The steel plant as assemblage' *Geoforum* **44**: 282-291.
- Taylor C and Carter J** (2013) 'The Agency of Dolphins: Towards Inter-species Embassies as Sites of Engagement with 'Significant Otherness'' *Geographical Research* **51**(1): 1-10.
- Technical Group on the Cairngorm Area of the Eastern Highlands of Scotland, Scottish Development Department** (1967) *Cairngorm Area: Report*. Her Majesty's Stationary Office; Edinburgh.

- Thaxton R** (24 July 2014) 'The future: Perhaps coming to a pylon near you.....?' Posted on the Loch Garten Osprey Diary Blog, the RSPB community webpages [Accessed on 20/1/15 at <http://www.rspb.org.uk/community/placesto visit/lochgartenospreys/b/lochgartenospreys/archive/2014/07/24/the-future-perhaps-coming-to-a-ylon-near-you.aspx>]
- Thom V** (1986) *Birds in Scotland*. T & AD Poyser; Calton.
- Thomas K** (1983) *Man and the Natural World: Changing Attitudes in England, 1500-1800*. Allen Lane; London.
- Thompson M** (2007) 'Placing the Wild in the City: "Thinking with" Melbourne's Bats' *Society and Animals* **15**(1): 79-95.
- Thompson P, Amar A, Hoccom D, Knott J and Wilson J** (2009) 'Resolving the conflict between driven-grouse shooting and conservation of hen harriers' *Journal of Applied Ecology* **46**(5): 950-954.
- Thornton T** (1804) *A Sporting Tour Through the Northern Parts of England and a Great Part of the Highlands of Scotland*. Vernor & Hood; London.\*
- Thrift N** (2008) *Non-representational Theory: Space, Politics, Affect*. Routledge; London.
- Toogood M** (1995) 'Representing Ecology and Highland Tradition' *Area* **27**(2): 102-109.
- Toogood M** (2008) 'Beyond 'the toad beneath the harrow': geographies of ecological science, 1959-1965' *Journal of Historical Geography* **34**(1): 114-137.
- Toogood M** (2011) 'Modern observations: new ornithology and the science of ourselves, 1920-1940' *Journal of Historical Geography* **37**(3): 348-357.
- Trevor-Roper H** (1989) 'The Invention of Tradition: The Highland Tradition of Scotland' in Hobsbawm E and Ranger T (eds) (2007) *The Invention of Tradition* (Canto; Cambridge): 15-41.
- Tsing A** (2012) 'Unruly Edges: Mushrooms as Companion Species' *Environmental Humanities* **1**: 141-154.
- Tucker R** (2012) "War and the Environment" in MacNeill J and Mauldin E (eds) *A Companion to Global Environmental History* (Wiley Blackwell; Oxford): 319-339.
- Umebayashi K** (2005) 'Nesting: Beyond Objects to the Bodily Experience of Space' in Umebayashi K, Daniell T, Webb M, Allison P, Kojima K (eds) *FOBA: Buildings* (Princeton Architectural Press; New York): 9-11.
- Urbanik J** (2012) *Placing Animals: An Introduction to the Geography of Human-Animal Relations*. Rowman and Littlefield; Lanham MD, Boulder CO, New York, Toronto & London.
- Valentine G and Hughes K** (2011) 'Shared space, distant lives? Understanding family and intimacy at home through the lens of internet gambling' *Transactions of the Institute of British Geographers* **37**(2): 242-255.
- van Dooren T** (2014) *Flight Ways: Life and Loss at the Edge of Extinction*. Colombia University Press; New York.

- van Dooren T** (2015) 'Authentic Crows: Identify, Captivity and Emergent Forms of Life' *Theory, Culture and Society* [Online access ahead of print, doi: 10.1177/0263276415571941].
- van Dooren T and Rose D-B** (2012) 'Storied-places in a multispecies city' *Humanimalia* 3(2): 1-27.
- van Dooren T and Rose D-B** (2016) 'Lively Ethology: Storying Animist Worlds' *Environmental Humanities* 8(1): 77-94.
- Vogel S** (2008) 'From 'The Dose Makes the Poison' to 'The Timing Makes the Poison': Conceptualising Risk in the Synthetic Age.' *Environmental History* 13(4): 667-673.
- von Uexküll J** (2010) *A Foray into the Worlds of Animals and Humans*. University of Minnesota Press; London & Minneapolis.
- Walters W** (2015) 'Secrecy, publicity and the milieu of security' *Dialogues in Human Geography* 5(3): 287-290.
- Waterston G** (1962) 'The Natural History of the Osprey' in Brown P and Waterston G (eds) *The Return of the Osprey* (Collins; London): 65-160.
- Waterston G** (1966) *Ospreys in Speyside*. The Royal Society for the Protection of Birds, Sandy.
- Waterton C** (2002) 'From Field to Fantasy: Classifying Nature, Constructing Europe' *Social Studies of Science* 32(2): 177-204.
- Waterton C** (2003) 'Performing the classification of nature' in Szerzynski B, Heim W and Waterton C (eds) *Nature Performed: Environment, Culture and Performance* (Blackwell; Oxford): 111-129.
- Waterton C, Ellis R and Wynne B** (2013) *Barcoding Nature: Shifting Cultures of Taxonomy in an Age of Biodiversity Loss*. Routledge; London & New York.
- Watson C** (2009) *Colin Watson: His Story*. Jim Whittaker; Leeds.
- Weimeyer S, Spitzer P, Krantz W, Lamont T, Cromartie E** (1975) 'Effects of Environmental Pollutants on Connecticut and Maryland Ospreys' *The Journal of Wildlife Management* 39(1): 124-139.
- Wernham C, Etheridge B, Holling M, Riddle G, Riley H, Stirling-Aird P, Stroud D, Thompson D and Wilson J** (2008) "The Scottish Raptor Monitoring Scheme: Objectives, Achievements in the First Four Years and Plans for Future Development" *Ambio* 37(6): 460-465.
- Whale H and Ginn F** (forthcoming) 'In the absence of sparrows' in Landman K and Consulo-Willox A (eds) *Environment as/and Mourning* (McGill-Queen's University Press; Montreal & Kingston).
- Whatmore S** (1997) "Dissecting the autonomous self: hybrid cartographies for a relational ethics" *Environment and Planning D: Society & Space* 15(1): 37-53.
- Whatmore S** (2002) *Hybrid Geographies: natures, cultures, spaces*. Sage; London.
- Whatmore S** (2006) 'Materialist returns: practising cultural geography in and for a more-than-human world' *Cultural Geographies* 13(4): 600-609.

- Whatmore S and Thorne L** (1998) 'Wild(er)ness: Reconfiguring the Geographies of Wildlife' *Transactions of the Institute of British Geographers* **23**(4): 435-454.
- Whatmore S and Thorne L** (2000) 'Elephants on the move: spatial formations of wildlife exchange' *Environment and Planning D: Society and Space* **18**(2): 185-203.
- Whitely P** (2012) 'Epilogue: Prolegomenon for a new totemism' in Sodikoff G (ed) *The Anthropology of Extinction: Essays on Culture and Species Death* (Indiana University Press; Bloomington IN & Indianapolis): 219-226.
- Whitehouse A** (2015) 'Listening to Birds in the Anthropocene: The Anxious Semiotics of Sound in a Human-Dominated World' *Environmental Humanities* **6**: 53-71.
- Wightman A, Higgins P, Jarvie G. and Nicol R** (2002) "The Cultural Politics of Hunting: Sporting Estates and Recreational Land Use in the Highlands and Islands of Scotland" *Culture, Sport, Society* **5**(1): 53-70.
- Withers C** (2007) 'History and philosophy of geography 2004-2005: biographies, practices, sites' *Progress in Human Geography* **31**(1): 67-76.
- Wolch J and Emel J** (1995) 'Bringing the animals back in' *Environment and Planning D: Society & Space* **13**(6): 632-636.
- Wolley J and Newton A** (1864) *Ootheca Wolleyana: An Illustrated Catalogue of the Collection of Birds' Eggs Formed by the Late John Wolley (Part 1: Accipitres)*. John Van Voorst; London.\*
- Woods M** (2005) 'Ecological restoration and the renewal of wildness and freedom' in Heyd T (ed) *Recognizing the Autonomy of Nature: Theory and Practice* (Columbia University Press; New York): 170-188.
- Woodward K, Jones J and Marston S** (2010) 'Of eagles and flies: orientations toward the site' *Area* **42**(3): 271-280.
- Woodward R** (2014) 'Military landscapes: Agendas and approaches for future research' *Progress in Human Geography* **38**(1): 40-61.
- Wylie J** (2007) *Landscape*. Routledge; London & New York.
- Wylie J** (2009) 'Landscape, absence and the geographies of love' *Transactions of the Institute of British Geographers* **34**(3): 275-289.
- Yarrell W** (1871) *A History of British Birds [4<sup>th</sup> ed]: Volume 1, revised and enlarged by Alfred Newton*. John Van Voorst; London.\*
- Yusoff K** (2010) 'Biopolitical Economies and the Political Aesthetics of Climate Change' *Theory, Culture & Society* **27**(2-3): 73-99.
- Yusoff K** (2012) 'Aesthetics of loss: biodiversity, banal violence and biotic subjects' *Transactions of the Institute of British Geographers* **37**(4): 576-592.

## 2. Archival and Additional Source Material

*The following comprises a list of all documentary or additional sources referred to within this thesis. Much of this material, particularly that held by the RSPB in Edinburgh, was uncatalogued at the time of collection and writing. I have striven to include as much detail relating to these documents as possible. Materials are organised under headings that relate to*

*the collections in which they are held, and in accordance with how they are referred to in the main text and footnotes.*

## **The Royal Society for the Protection of Birds**

### **RSPB Sandy**

*Sources held and accessed at RSPB Headquarters, The Lodge, The Heath, Potton Rd, Sandy SG19 2DL.*

### **Memos and Correspondence**

Watchers' Reports and Correspondence from Nethersole-Thompson relating to Spey Valley, 1940-1949. Classmark 01.05.72(Z).

Watchers' Reports and Correspondence from Nethersole-Thompson and Members of Council, 1947-52. Classmark 01.05.72(Z).

Letter from George Waterston, RSPB Scottish Representative to Peter Conder, RSPB Reserves Department, Ecclestone Terrace, London (30 June 1955) 'Secret'. Classmark 01.05.709.

Letter from George Waterston to Peter Conder (2 July 1955) 'Ospreys at Loch Morlich' Classmark 01.05.709.

Letter from George Waterston to Philip Brown, RSPB Secretary (13 July 1955) concerning the discovery of a nest in Rothiemurchus forest. Classmark: 01.05.709.

Letter from George Waterston to Philip Brown (20 April 1963) 'Secret: Second Pair of Ospreys Building Nest'. Classmark 01.05.709.

Letter from Philip Brown to George Waterston (24 April 1963) 'Personal and Confidential' A response to Waterston's previous letter concerning the discovery of a second pair of ospreys on Speyside. Classmark 01.05.709.

Letter from George Waterston to all volunteer osprey wardens (17 May 1963) 'Operation Osprey 1963: Notice to Wardens' Describes early season failure and possibility of putting the second pair on display. Classmark 01.05.709.

### **Reports, notes and miscellaneous source materials**

Waterston G (6 July 1956) 'Ospreys in Speyside 1956: Report to the Watchers' Committee by Mr George Waterston, STRICTLY CONFIDENTIAL'. Classmark 01.05.709.

'A note on a meeting between the Royal Society for the Protection of Birds, the nature Conservancy and Col. Grant to Discuss the Speyside Problem' (26 October 1956). Classmark 01.05.709.

Waterston G (22 April 1957) 'Ospreys in Speyside' A preliminary report in haste for the RSPB and Nature Conservancy. Classmark 01.05.709.

Conder P (undated - presumed 1957) 'Osprey Watching in 1957'. Classmark 01.05.709.

Brown P (21 May 1958) 'Operation Scotland' A short report on the delay in raising NC wardens to assist in guarding the osprey nest at Loch Garten. Classmark 01.05.709.



Imitation osprey egg discovered in the south Garten nest following the robbery in 1958. Classmark 01.00.09.

'Operation Osprey: Roy Richards at Loch Garten' (1960) Audio tape. Classmark 01.05.709.

'Save a Place for the Osprey' (undated – late 1970s) Leaflet. Classmark 01.02.22.

### **RSPB Committee and Council Minutes**

RSPB Council Minutes, April 1949-February 1960. Classmark 01.01.11.

RSPB Council Minutes, March 1975-July 1981. Classmark 01.01.11.

RSPB Watchers Committee/Conservation Committee Minutes (Renamed Conservation Committee in October, 1966), July 1954-November 1970. Classmark: 01.01.11.

RSPB Watchers Committee/Conservation Committee/Reserves and Research Committee Minutes, June 1978-March 1986. Classmark: 01.01.11.

### **Osprey Log Books**

The Loch Garten osprey log for the 1970 breeding season, 3 volumes. Uncatalogued.

The Loch Garten osprey log for the 1973 breeding season, 4 volumes. Uncatalogued.

The Loch Garten osprey log for the 1974 breeding season, 3 volumes. Uncatalogued.

The Loch Garten osprey log for the 1983 breeding season, 3 volumes. Uncatalogued.

The Loch Garten osprey log for the 1985 breeding season, 3 volumes. Uncatalogued.

The Loch Garten osprey log for the 1986 breeding season, 2 volumes. Uncatalogued.

The Loch Garten osprey log for the 1987 breeding season, 3 volumes. Uncatalogued.

### **Publications by the RSPB or accessed via the Lodge library**

Ray J (1678) *The Ornithology of Francis Willughby*. John Martyn, Printer to the Royal Society; London.

Harvie-Brown J (1896) 'No. 6 – Osprey' *The Society for the Protection of Birds Educational Series*, 1896-1898. Classmark 01.03.11.

Gordon S (25 March 1949) 'Haunts of the Osprey' *Country Life* (25 March 1949) The Lodge library reprint SP632: 674-675.

Charteris H (July 1962) 'All Eyes on the Osprey' *The Telegraph*. Classmark 01.05.709.

Puleston D (1975) 'The Return of the Osprey' *Natural History* **84**(2): 52-59.

*The Rarer Birds of Prey: Their Present Status in the British Isles*, RSPB Occasional Publication No. 28. Classmark 01.03.13.

Dennis R (October 1985) 'Contribution to Osprey Management in the British Isles' Report prepared by the RSPB Highland office. The Lodge library copy: 43-1985, NC12.12.2678 R1546.

Hart T (1990) *Loch Garten Osprey Logs, 1981-87*. Stored offsite, Classmark 15-91, R502.

RSPB (1991) *The Ospreys of Loch Garten*. RSPB & Dalwhinnie, Edinburgh

### ***Bird Notes & News, Bird Notes, Birds***

- 'Bird-Watchers' (25 March 1908) *Bird Notes and News* **3**(1): 1-3.
- JLB (1911) 'The Work of the Watchers Committee of the Royal Society for the Protection of Birds' Supplement to *Bird Notes and News* (Autumn 1911): 1-6.
- Sandeman G (1955) 'The Old Caledonian Forest' *Bird Notes* **26**(6): 174-175.
- Waterston G (1957) 'Ospreys in Speyside' *Bird Notes* **27**(5): 130-131.
- Waterston G (1957) 'Bird Protection in Scotland' *Bird Notes* **27**(6): 169-170.
- 'Miscellany: The Osprey Disaster' (1958) *Bird Notes* **28**(4): 362-364.
- 'The Sixty Ninth RSPB Annual Report, 1959' (1960) *Bird Notes* **29**(4): 114-124.
- Waterston G (1960) 'Notes on the Breeding Biology of the Speyside Ospreys - 1959 & 1960: Part 1' *Bird Notes* **29**(5): 130-135.
- Waterston G (1961) 'Notes on the Breeding Biology of the Speyside Ospreys - 1959 & 1960: Part 2' *Bird Notes* **29**(6): 174-184.
- Waterston G (1963) 'Operation Osprey, 1963' *Bird Notes* **30**(9): 275-278.
- Waterston G (1964) 'Operation Osprey, 1964: A progress report by George Waterston' *Bird Notes* **31**(4): 126-129.
- Waterston G (1964) 'Operation Osprey, 1964' *Bird Notes* **31**(6): 199-200.
- 'Fine in Osprey Case' (March/April 1972) *Birds* **4**(2): 34.
- Conder P (1980) 'Obituary: George Watertson' *Birds* **8**(4): 73.

### ***Photographs***

- Photograph of George Waterston in the Forward Hide at Loch Garten, undated - presumed 1960s. Classmark 01.01.20.
- Photograph of AA Signposting to ospreys at Loch Garten, 1962. Classmark 01.05.709.

### ***RSPB SHQ***

*Sources held and accessed at the RSPB Scottish Offices, Edinburgh Park, 2 Lochside View, Edinburgh, EH12 9DH.*

### ***Memos and Correspondence***

- Letter from Douglas Weir, osprey warden 1964 and RSPB research staff Speyside to George Waterston (undated - 'Tuesday night', presumed late 1964) Discusses the use and a strategy for monitoring the use of toxic chemicals on Speyside. Early Operation Osprey, Box d117, uncatalogued.
- Letter from Douglas Weir to George Waterston (30 November 1964) Reporting on the use of toxic substances on Speyside and the sighting of a snowy owl. Early Operation Osprey, Box d117, uncatalogued.
- Letter from George Waterston to Dick Fursman, senior RSPB warden of 'Operation Osprey', Rothiemurchus (23 February 1965) Asking Fursman to arrange fish samples from Speyside for analysis. Early Operation Osprey, Box d117, uncatalogued.

Letter from George Waterston to Douglas Weir (5 March 1965) 'Chemical Analysis of Osprey pellet'. Early Operation Osprey, Box d117, uncatalogued.

Letter from George Waterston to Jim Crompton and Anthony Grant, junior osprey wardens (2 May 1965) 'Operations Osprey 1965 and Predator Survey'. Early Operation Osprey, Box d117, uncatalogued.

Letter from Cecil Winnington-Ingram, RSPB Administrator, to Dick Fursman, cc. Scottish Representative (18 March 1966) An outline of the objectives of the Speyside Representative. Early Operation Osprey, Box d117, uncatalogued.

Letter from David Grant, junior osprey warden 1966, to George Waterston (1 June 1966) 'Operation Osprey: Monthly Report'. Early Operation Osprey, Box d117, uncatalogued.

Letter from Dick Fursman to George Waterston (7 September 1966) Reporting figures for visitors and finances over the season. Early Operation Osprey, Box d117, uncatalogued.

Letter from David Grant to George Waterston (10 November 1966) "'Operation Osprey": FINAL REPORT'. Early Operation Osprey, Box d117, uncatalogued.

Letter from Dick Fursman, RSPB Speyside Representative to George Waterston (5 June 1966) 'Report of a Third Osprey's Nest'. Early Operation Osprey, Box d117, uncatalogued.

Letter from Dick Fursman to George Waterston (8 December 1966) Concerning the future of 'Operation Osprey' on Speyside. Early Operation Osprey, Box d117, uncatalogued.

Letter from Dick Fursman to George Waterston (1 February 1967) Early Operation Osprey, Box d117, uncatalogued.

Letter from George Waterston to Dick Fursman (6 February 1967) 'Operation Osprey, Proposed New Observation Post' A letter concerning proposals for more static infrastructure at Loch Garten. Early Operation Osprey, Box d117, uncatalogued.

Letter from George Waterston to Dick Fursman (4 May 1967) Discussing arrangements for guarding the second pair. Early Operation Osprey, Box d117, uncatalogued.

Letter from Dick Fursman to George Waterston (25 May 1967) Reporting on the status of known and possible osprey nesting sites. Early Operation Osprey, Box d117, uncatalogued.

Letter from George Waterston to Dick Fursman (6 June 1967) 'Operation Osprey etc' Discussion of press releases following the hatching of ospreys. Early Operation Osprey, Box d117, uncatalogued.

Letter from Tony Taylor, assistant osprey warden in 1967, London to Mike Everett (1 September 1967) Letter concerning logged records from a second Speyside nest at Moormore. Early Operation Osprey, Box d117, uncatalogued.

G.W. Humphries, Alfred Saville & Sons Chartered Surveyors, Wimborne, Dorset to David Lea, RSPB Reserves Department, The Lodge, Sandy (11 December 1967) 'Operation Osprey' A letter discussing the die-back of the nest tree and the possibility of arresting it. Early Operation Osprey, Box d117, uncatalogued.

Letter from the Director, Curfew Appliances Ltd to A W Colling, Nature Conservancy, Edinburgh (8 March 1968) Discussing the models of incubators available and that provided to Colling in 1962. Early Operation Osprey, Box d117, uncatalogued.

Letter from George Waterston to Peter Olney, RSPB Research Biologist, The Lodge, Sandy (20 March 1968) 'Second Osprey Eyrie: Artificial Incubation'. Early Operation Osprey, Box d117, uncatalogued.

Letter from Chris Lowe, 31 Birchfield Road, Northampton, former osprey volunteer to George Waterston (26 March 1968) The correspondent writes to make himself available for a shift on Fetlar as part of 'Operation Snowy Owl'. Early Operation Osprey, Box d117, uncatalogued.

Letter from Mike Everett to the Director, Curfew Appliances Ltd (28 March 1968) Placing an order for an incubator from curfew. Early Operation Osprey, Box d117, uncatalogued.

Letter from the Director, Curfew Appliances Ltd to Mike Everett (10 April 1968) Letter to inform the RSPB of the incubator being dispatched. Early Operation Osprey, Box d117, uncatalogued.

Letter from Dick Fursman to George Waterston (14 April 1968) Discussion of the incubation plans at the second eyrie and queries. Early Operation Osprey, Box d117, uncatalogued.

Letter from Mike Everett to George Waterston (18 April 1968) Discussion of Colling's use of incubator. Early Operation Osprey, Box d117, uncatalogued.

Memo from Mike Everett to David Lea, RSPB Reserves Department, "et al", cc. George Waterston (22 April 1968) "'Operation Osprey'" A report on Everett's recent visit to Speyside with details of the incubation plan. Early Operation Osprey, Box d117, uncatalogued.

Letter from Mike Everett to Mr D. L. Dowman, Curfew Appliances Ltd (12 June 1968) Informing Curfew of the decision not to use the incubator. Early Operation Osprey, Box d117, uncatalogued.

Letter from Roger T Peterson, Old Lyme, Connecticut to George Waterston (14 June 1968) A discussion about the pesticide issue and experiments in America. Early Operation Osprey, Box d117, uncatalogued.

Letter from Dick Fursman to George Waterston (1 October 1968) A letter enclosing a report on the proposed Loch Garten Nature Trail and improvements at osprey camp. Early Operation Osprey, d117, uncatalogued.

Letter from Dick Fursman to George Waterston (23 November 1968) Mention made of the use of 50 gallons of Rotenone to clear Avielochan of pike. Early Operation Osprey, Box d117, uncatalogued.

Letter from Derek Ratcliffe, The Nature Conservancy, Monks Wood Experimental Station to George Waterston (13 December 1968) A reply to a letter from Waterston suggesting an egg-weighing experiment with discussion of current research on pesticides. Early Operation Osprey, Box d117, uncatalogued.

Letter from R Oswald-Blyth, Kingswood, Surrey, to George Waterston (29 December 1968) Writing to inform Waterston of an anecdotal record from his father

of breeding at Loch an Eilein during the 1880s. Early Operation Osprey, Box d117, uncatalogued.

DW Elliot, Stagsden, Bedford to George Waterston (1 January 1969) 'A Suggestion' Proposing the erection of an artificial nest at Loch an Eilein and the provision of osprey viewing facilities there. Early Operation Osprey, Box d117, uncatalogued.

Letter from Mike Everett, RSPB Scottish Office, Edinburgh to DW Elliot (7 January 1969) Reply to Elliot's previous letter on 1 January concerning the erection of an artificial nest platform at Loch an Eilein. Early Operation Osprey, Box d117, uncatalogued.

Letter from Mike Everett to DW Elliot (7 January 1969) Reply to Elliot's previous letter concerning the erection of an artificial nest platform at Loch an Eilein. Early Operation Osprey, Box d117, uncatalogued.

Letter from Mike Everett to David Lea (11 February 1969) 'Operation Osprey, 1969: OP/Sales Hut Problems'. Early Operation Osprey, Box d117, uncatalogued.

Memo from Mike Everett to David Lea (13 February 1969) 'Operation Osprey - Log Books'. Early Operation Osprey, Box d117, uncatalogued.

Letter from Dick Fursman to George Waterston (8 March 1969) Letter makes a mention of a possible incubation scheme in 1969. Early Operation Osprey, Box d117, uncatalogued.

Letter from Mike Everett to DA McKinley, researcher investigating Speyside tourism, Department of Geography, University of Edinburgh (21 August 1969) A response to the recipient's request for details about 'Operation Osprey'. Early Operation Osprey, Box d117, uncatalogued.

Letter from Dick Fursman to Julian Knowles, RSPB Scotland Office secretary (5 October 1969) 'Binoculars for Op. Osp '70'. Early Operation Osprey, d117, uncatalogued.

Letter from Dick Fursman to George Waterston (19 October 1969) A response to a query from Waterston (on 13 October) concerning a nest at Kinveachy. Early Operation Osprey, d117, uncatalogued.

Letter from George Waterston to Dick Fursman (22 October 1969) A response Fursmans letter regarding the Kinveachy eyrie. Early Operation Osprey, d117, uncatalogued.

Harvey Burton, senior warden of 'Operation Osprey' 1970-1971, to R. Young Esq, Fetcham, Surrey (10 November 1970) A reply to the recipient's letter to Waterston on the 3 November regarding his recent visit to Loch Garten and his suggestions for a photographic hide erected closer to the nest. Early Operation Osprey, Box d117, uncatalogued.

Memo from Harvey Burton to Peter Conder, RSPB Secretary; George Waterston; and Roy Dennis, RSPB Highland Officer (3 June 1971) 'Robbing of Osprey Eyrie at Loch Garten on Night of 16<sup>th</sup>/17<sup>th</sup> May'. Early Operation Osprey, Box d117, uncatalogued.

Letter from Harvey Burton to Mike Everett, cc. George Waterston (1 July 1970) 'Reserve Bulletin, June' Report on the previous month's activities on Speyside. Early Operation Osprey, Box d117, uncatalogued.

Memo from Harvey Burton to Julian Knowles, assistant in the RSPB Scottish office (4 September 1970) Discussing a letter from a C.W. Fletcher, London to Waterston reporting discovery of a frustration eyrie near Carrbridge known to the RSPB as one built by birds disturbed by tree planting on Seafeld estate. Early Operation Osprey, Box d117, uncatalogued

Letter from R Dawson, Detective Chief Inspector of the Home Office Crime Prevention Centre, Police Headquarters, Stafford to Frank Hamilton, RSPB Scotland Office (29th July 1971) 'Protection of Ospreys at Loch Garten' A response to Hamilton's enquiries on the 4<sup>th</sup> and 6<sup>th</sup> of July regarding advice on protecting the nest. Early Operation Osprey, Box d117, uncatalogued.

Letter from J. Nevin, Manager, Security Division at Camrex Special Coating Services Ltd to Frank Hamilton (21<sup>st</sup> September, 1971) A letter discussing the application of Camrex anti-climb paint to the osprey eyrie. Early Operation Osprey, d117, uncatalogued.

Letter from Frank Hamilton to Mr L Shorrock, General Manager, Shorrock Security (28 September 1971) In response to that received on 20 September regarding the cost of the Shorrock security system. Early Operation Osprey, d117, uncatalogued.

Letter from GM Hasler, Manager, Special Security Sales, Chubb Alarms Ltd to Frank Hamilton (29th November 1971) Reporting on proposals for upgraded Loch Garten security. Early Operation Osprey, Box d117, uncatalogued.

Letter from Frank Hamilton to Russell Leavett, senior osprey warden in 1962 (16 October 1972) Discussion of a recent report by Leavett on the two newly installed alarm systems and the Chubb press release. Early Operation Osprey, d117, uncatalogued.

Memo from Russell Leavett to James Cadbury, RSPB senior research biologist, cc. John Crudass, RSPB reserves manager; Frank Hamilton, Scottish Officer (23 January 1973) A short note suggesting revisions to the logging format. Early Operation Osprey, Box d117, uncatalogued.

Memo from James Cadbury to Chris Evans, osprey warden 1973, cc. Frank Hamilton, John Crudass (21 June 1973) 'Osprey log' Memo regarding the analysis of the log including a list of criteria under which analysis should be conducted. Early Operation Osprey, Box d117, uncatalogued.

### ***Reports, notes and miscellaneous source materials***

Waterston G (undated - presumed late 1955/early 1956) 'Strictly Confidential, Operation Osprey' A report on the preliminary plans for protecting ospreys in the Sluggan. Early Operation Osprey, Box d117, uncatalogued.

Waterston G (22 July 1958) 'Operation Osprey - 1958' A report to the Watchers' Committee on the events of the season and nest robbery. Early Operation Osprey, Box d117, uncatalogued.

Waterston G (24 September 1958) 'Operation Osprey - 1959' Comments by Waterston on a memorandum by Philip Brown on 23 September 1958. Early Operation Osprey, Box d117, uncatalogued.

'Proposed Bird Sanctuary at Loch Garten, Invernesshire' (undated - presumed late 1958) Official application to the Secretary of State for Scotland to approve a bird

sanctuary around Loch Garten with handwritten annotations by Waterston. Early Operation Osprey, Box d117, uncatalogued.

'Operation Osprey, 1959: Points for discussion' (26 October 1958) Annotated agenda for a meeting held in Perth between the representatives of the RSPB and the Nature Conservancy. Early Operation Osprey, Box d117, uncatalogued.

'Back Hide, Night Hide, Log Book Instructions' (undated – presumed 1959) Instructions for wardens in the hides the details instructions for using the 'three-colour torch' in the night hide. Early Operation Osprey, Box d117, uncatalogued.

'Operation Osprey, 1959: Standing Orders' (undated – presumed 1959) Instructions for wardens including the headings 'Objective', 'Method', 'Watchers' and 'Action on Warnings'. Early Operation Osprey, Box d117, uncatalogued.

'Operation Osprey, Standing Orders' (undated – presumed 1959) Early Operation Osprey, Box d117, uncatalogued.

'Operation Osprey, Phase 2: Standing Orders' (undated – presumed 1959) General instructions for guarding the new nest site northeast of Loch Garten with specific actions to be taken during the day and at night. Early Operation Osprey, Box d117, uncatalogued.

'Ospreys Hatch Eggs Successfully in Scotland' (undated – presumed June 1959) Press handout announcing the successful hatching. Early Operation Osprey, Box d117, uncatalogued.

Waterston G (1959) 'Operation Osprey, 1959' A full report on the season. Early Operation Osprey, Box d117, uncatalogued.

Waterston G (23 October 1959) 'Operation Osprey, 1960: Some Thoughts on Plans'. Early Operation Osprey, Box d117, uncatalogued.

The Wild Birds (Loch Garten Bird Sanctuary) Order 1960 (copy) (21 April 1960) Early Operation Osprey, Box d117, uncatalogued.

Waterston G (undated – presumed autumn 1960) 'Ospreys in Speyside' A report on the successful 1960 season. Early Operation Osprey, Box d117, uncatalogued.

Dennis R (16 May 1963) Bird watchers at the Osprey eyrie: Report for RSPB. Early Operation Osprey, Box d117, uncatalogued.

Waterston G (8 August 1963) 'Operation Osprey 1964: Some Thoughts on Administration & Policy'. Early Operation Osprey, Box d117, uncatalogued.

Colling A (1964) 'The Present Position regarding Protection of Birds of Prey in Great Britain' Reprinted from Report on the ICBP Working Conference on Birds of Prey and Owls, 1964: 99-103. Early Operation Osprey, Box d117, uncatalogued.

Weir D (30 April 1964) 'Operation Osprey 1964, Monthly Report No. 1: 27<sup>th</sup> March to 30<sup>th</sup> April' (typed copy). Early Operation Osprey, Box d117, uncatalogued.

'Operation Osprey 1964: First Monthly Report' (27 March – 30 April 1964) A report to George Waterston from the senior and assistant wardens on Speyside – RSPB SHQ, Early Operation Osprey, Box d117, uncatalogued.

Fursman R, Weir DN and Grant A (30 May 1964) 'Operation Osprey, Monthly Report No. 2' A report prepared for George Waterston on the second month of the osprey season. Early Operation Osprey, box d117, uncatalogued.

*The Osprey* (1964) A weekly bulletin of Speyside wildlife, produced for public by the local staff of the RSPB, vol. 1, 13 issues. Early Operation Osprey, Box d117, uncatalogued.

Example contact card to be displayed by local tourist venues around Speyside advertising Dick Fursman as the RSPB's Speyside Representative (early 1966) Early Operation Osprey, Box d117, uncatalogued.

Waterston G (28 January 1967) 'A review of "Operation Osprey" - DRAFT'. Early Operation Osprey, Box d117, uncatalogued.

Winnington-Ingram C (24 April 1967) 'RSPB Publicity on Speyside' A short report on the relationship between the RSPB osprey centre and other tourist developments in the area. Early Operation Osprey, Box d117, uncatalogued.

Weir D (12 July 1967) 'Ringing of Scottish Ospreys' A report on the recent operation to ring young ospreys on a Morayshire estate prepared for the RSPB staff biologist, Scottish office and the British Trust of Ornithology ringing office. Early Operation Osprey, Box d117, uncatalogued.

Curfew Brochure 'See Them Hatch' Observation Incubator. Early Operation Osprey, Box d117, uncatalogued.

Fursman F (undated - presumed autumn 1968) 'Strathspey - August' Loch Garten reserve report for the final month of the osprey breeding season. Early Operation Osprey, d117, uncatalogued.

Fursman D (4 September 1968) 'Loch Garten Nature Trail & Osprey Camp' A short report on plans for regional expansion via a nature trail and discussion of the planning permission required for the camp. Early Operation Osprey, Box d117, uncatalogued.

Fursman D (1 October 1968) 'Loch Garten Nature Trail' A short report on the possible development of a nature trail and tourist centre. Early Operation Osprey, Box d117, uncatalogued.

Weir D (June 1970) '1954/1970 breeding data for Ospreys in NE Scotland' A short report on breeding numbers, performance, arrival and dispersion, and ringing of ospreys in Scotland. Early Operation Osprey, Box d117, uncatalogued.

Howie J (2 September 1970) 'Confidential, Operation Osprey' Totals of visitors, takings, donations and subscriptions for the season. Early Operation Osprey, Box d117, uncatalogued.

Dennis R (1971) 'Report on the Theft of Loch Garten's Osprey's Eggs' Confidential report with copies to George Waterston and secretary Peter Conder. Early Operation Osprey, Box d117, uncatalogued.

Waterston G (6 June 1971) 'Comments on Theft of Loch Garten Osprey Eggs'. Early Operation Osprey, Box d117, uncatalogued.

Waterston G (undated - presumed autumn 1971) 'Bring Back the Birch!' A short report on attempts to prosecute the apprehended nest robbers. Early Operation Osprey, Box d117, uncatalogued.

Waterston G (2 December 1971) 'Harvey Burton and 'Operation Osprey' 1972' A short memo outlining Harvey Burton's duties and the administration required to run the 'Operation'. Early Operation Osprey, Box d117, uncatalogued.



Leavett R (undated – presumed autumn 1972) 'Wardens Report, Loch Garten 1972'  
A summary report of the successful season. Early Operation Osprey, Box d117, uncatalogued.

Hamilton F (28 August 1973) 'Operation Osprey: Suggestions for Future Operations'  
A report concerning the impact of a new OP at Loch Garten and potential improvements. Early Operation Osprey, Box d117, uncatalogued.

### **RSPB Forest Lodge**

*Sources held and accessed at the RSPB Abernethy Reserve Offices, Forest Lodge, Nethy Bridge PH25 3EF.*

#### **Osprey Log Books (Microfiche)**

The Loch Garten osprey log for the 1957 breeding season, 2 volumes. Uncatalogued microfiche, 2 sheets.

The Loch Garten osprey log for the 1958 breeding season, 2 volumes. Uncatalogued microfiche, 1 sheet marked '1958', 2 sheets marked '1959'.

The Loch Garten osprey log for the 1959 breeding season, 8 volumes. Uncatalogued microfiche, 32 sheets.

The Loch Garten osprey log for the 1961 breeding season, 3 volumes. Uncatalogued microfiche, 14 sheets.

The Inshriarch osprey log for the 1963 breeding season, 1 volume. Uncatalogued microfiche, 3 sheets.

The Loch Garten osprey log for the 1964 breeding season, 3 volumes. Uncatalogued microfiche, 9 sheets.

The Loch Garten osprey log for the 1965 breeding season, 3 volumes. Uncatalogued microfiche, 10 sheets.

The Loch Garten osprey log for the 1966 breeding season, 3 volumes. Uncatalogued microfiche, 6 sheets.

The Moormore osprey log for the 1967 breeding season, 1 volume. Uncatalogued microfiche, 1 sheet.

The Loch Garten osprey log for the 1968 breeding season, 3 volumes. Uncatalogued microfiche, 10 sheets.

The Loch Garten osprey log for the 1969 breeding season, unknown number of volumes. Uncatalogued microfiche, 19 sheets.

The Loch Garten osprey log for the 1971 breeding season, unknown number of volumes. Uncatalogued microfiche, 5 sheets.

The Loch Garten osprey log for the 1972 breeding season, unknown number of volumes. Uncatalogued microfiche, 8 sheets.

The Loch Garten osprey log for the 1975 breeding season, unknown number of volumes. Uncatalogued microfiche, 3 sheets.

The Loch Garten osprey log for the 1976 breeding season, unknown number of volumes. Uncatalogued microfiche, 8 sheets.

The Loch Garten osprey log for the 1977 breeding season, unknown number of volumes. Uncatalogued microfiche, 9 sheets.

The Loch Garten osprey log for the 1978 breeding season, unknown number of volumes. Uncatalogued microfiche, 8 sheets.

The Loch Garten osprey log for the 1979 breeding season, unknown number of volumes. Uncatalogued microfiche, 9 sheets.

## **The Scottish Ornithologists' Club**

*Sources held and accessed at the headquarters of the SOC, Waterston House, Aberlady EH32 0PY.*

### **Memos and Correspondence**

George Waterston's Fair Isle Correspondence, 1949-1952. Classmark 3.16, Shelf 2/4, Box 32.

George Waterston's Fair Isle Correspondence, 1935-1977. Classmark 3.16, Shelf 2/4, Box 32.

Correspondence and text of The Scottish Osprey, George Waterston Archive 5, Classmark 3.16, Shelf 2/4, Box 289.

### **Reports, notes and miscellaneous documentary sources**

Annual Osprey Newsletters compiled by Roy Dennis (1976-1993) Box 19 ('Raptors').

Frank Hamilton's Bird Diary 1949-1959. Classification 3.18, Shelf 3/2, Box: 360.

### **Newspaper Cuttings**

'Ospreys return to Britain: Nesting again in Inverness-shire, first in 50 years' (9 March 56) *The Scotsman*. Newspaper Cuttings File, c.1950-1991, Box 72.

Nethersole-Thompson D (12 March 1956) 'Letter: The Return of the Osprey' *The Scotsman*. Newspaper Cuttings File, c.1950-1991, Box 72.

Waterston G (14 March 1956) 'Letter: The Return of the Osprey' *The Scotsman*. Newspaper Cuttings File, c.1950-1991, Box 72.

Nethersole-Thompson D (16 March 1956) 'Letter: The Return of the Osprey' *The Scotsman*. Newspaper Cuttings File, c.1950-1991, Box 72.

### **Photographs**

Photograph of (from left) George Waterston, Peter Conder and an obscured third individual inspecting the new forward hide. April 1959. Taken by Lord David Hope. George Waterston Archive 5, Classification 3.16, Shelf 2/4, Box 289.

Photograph of the south Loch Garten osprey eyrie, April 1959. Taken by Lord David Hope. George Waterston Archive 5, Classification 3.16, Shelf 2/4, Box 289.

## **SNA**

*Sources held by and accessed via The Scotsman Digital Archive, [<http://archive.scotsman.com>].*

'Loch-an-Eilan and its Ospreys' (9 June 1879) *The Scotsman* [Accessed online on 25/2/16, BL0000540.18790609.119.0005]: 5.

'The Vanishing Osprey' (23 January 1912) *The Scotsman* [Accessed online on 25/2/16, BL0000540.19120123.060.001111]: 11.

## **The Guardian and Observer Digital Archive**

*Sources held by and accessed via The Guardian and the Observer Digital Archive* [<http://pqasb.pqarchiver.com/guardian/advancedsearch.html>].

Nethersole-Thompson D (9 December 1958) 'The Osprey's Fight for Survival: A Saga of the Highlands' *The Manchester Guardian* [Accessed online 31/3/15]: 5.

## **RZSS**

*Sources provided by kind assistance of the RZSS Highland Wildlife Park, Kincaig, Kingussie PH21 1NL.*

Animal record card for male osprey (1985) Specimen deposited by RSPB at Highland Wildlife Park on 17 May 1985. Record Cards 1985.

'Specimen report ZBQ15-06038' (27 July 2015) Data from the International Species Information System regarding male osprey Edinburgh/285JA1 received 10 October 1985 by Edinburgh Zoo. Scottish Zoological Society, ISIS ZIMS database entry.

## **Additional material**

*Other notable sources cited in the text and in the possession of the author.*

'E.P' (29 June 1907) 'Loch-an-Eilan, the Osprey's Nest.' Postcard. Purchased on eBay by the author.

Letter from Lee Loftas, Air Command Secretariat, Spitfire Block, Royal Air Force High Wycombe to Ben Garlick, University of Edinburgh (11 September 2015) 'Response to FOI Request (2014/07831) and further enquiry regarding Low Flying over Loch Garten from RAF Lossiemouth' Personal communication. REF: Air/CmdSec/Parl/RB/2015/254.